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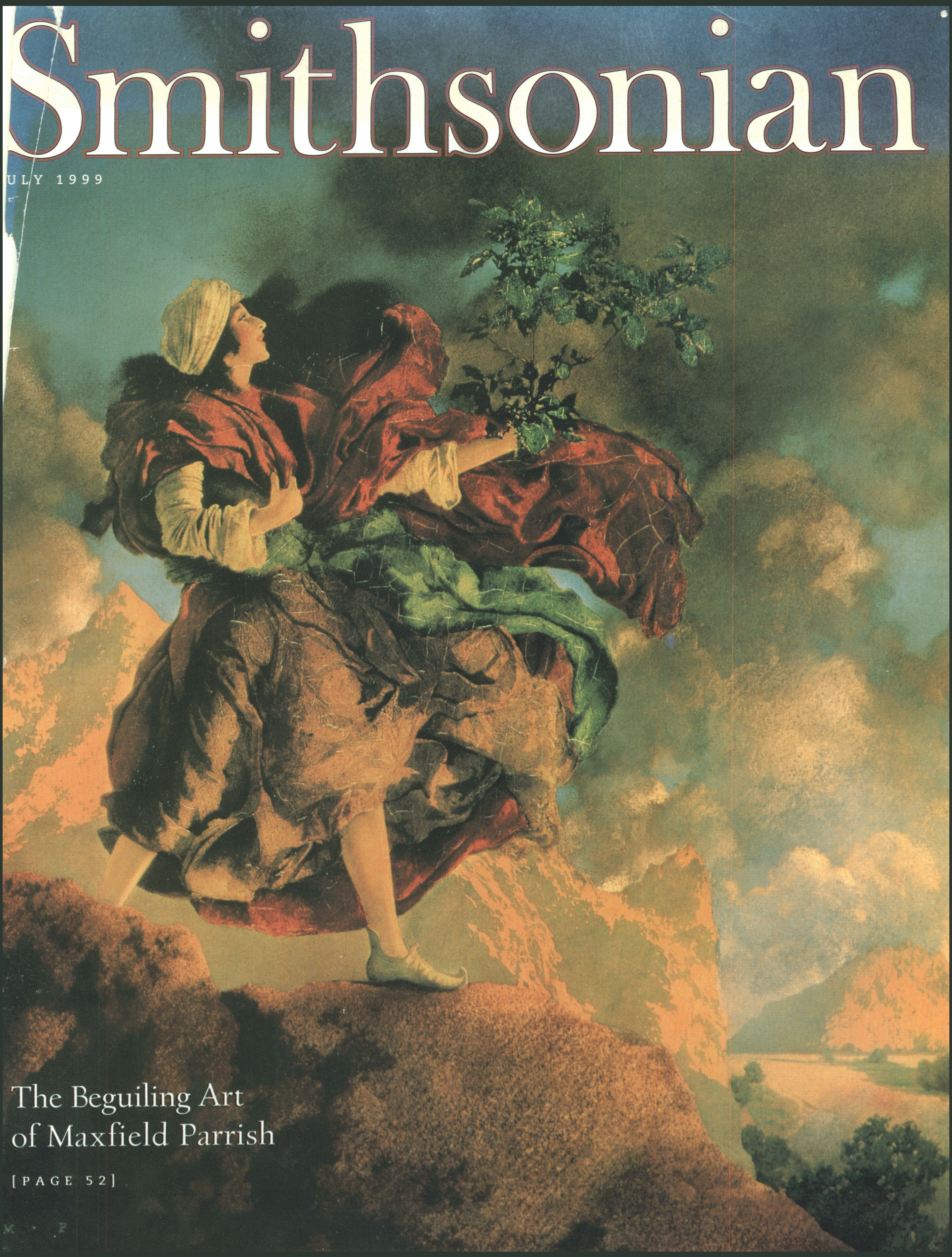

The Beguiling Art of Maxfield Parrish

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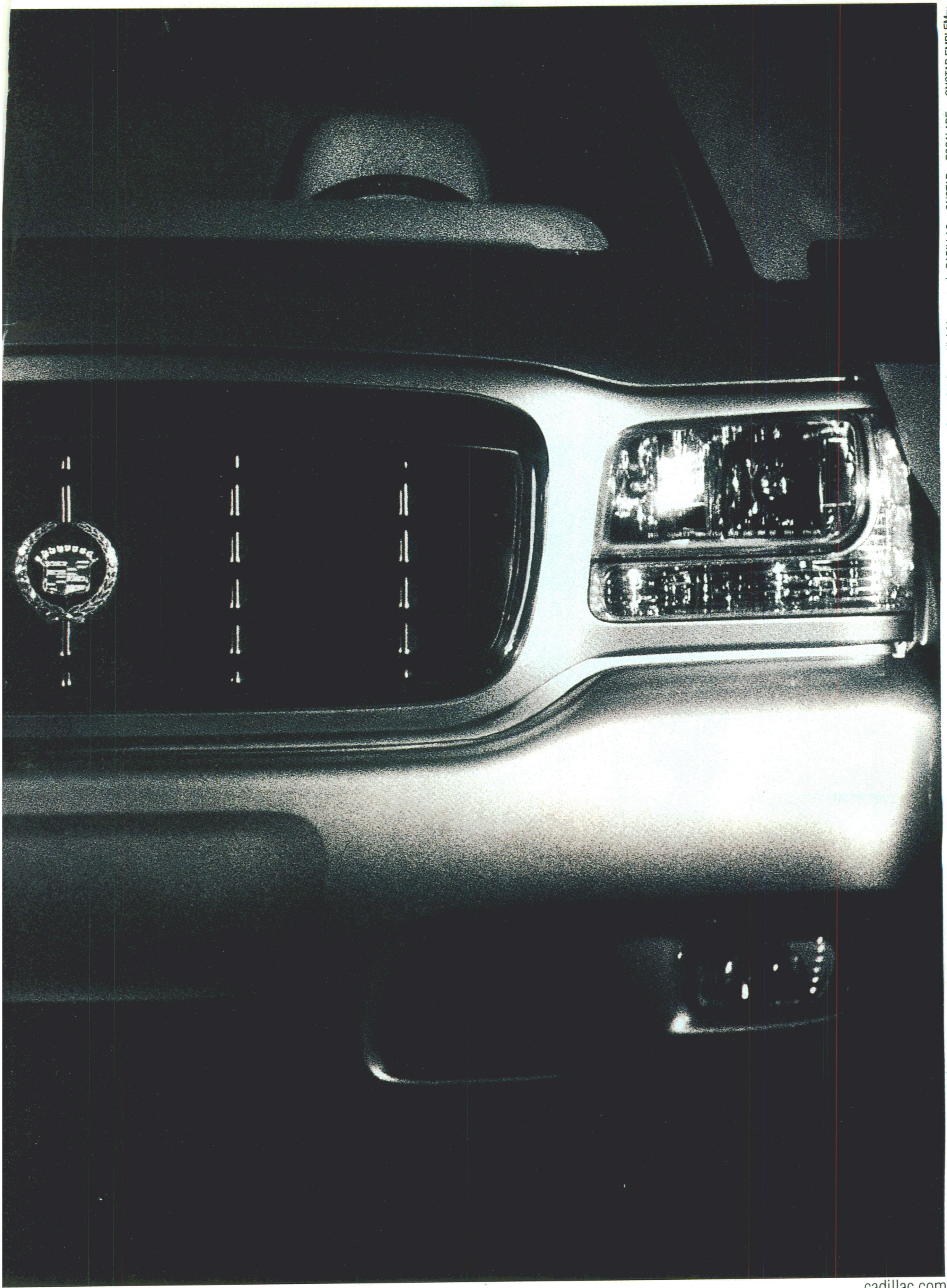

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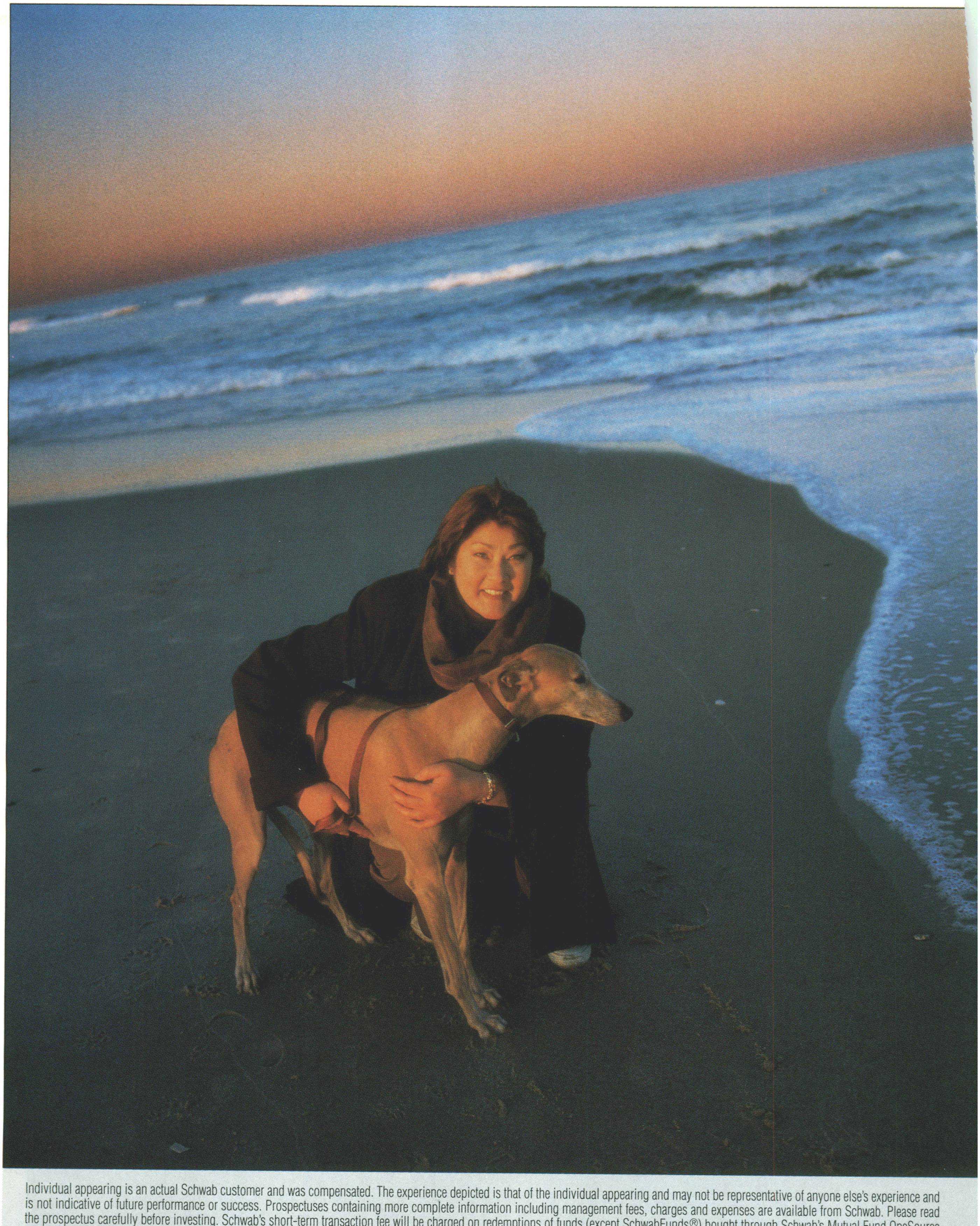

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“I was a homemaker, raising three children,” says Leilani. “When my husband passed away, I didn’t know anything about investing. It was very difficult. I went to two brokerage firms who both charged big loads and fees.”

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Charles Schwab

SMITHSONIAN

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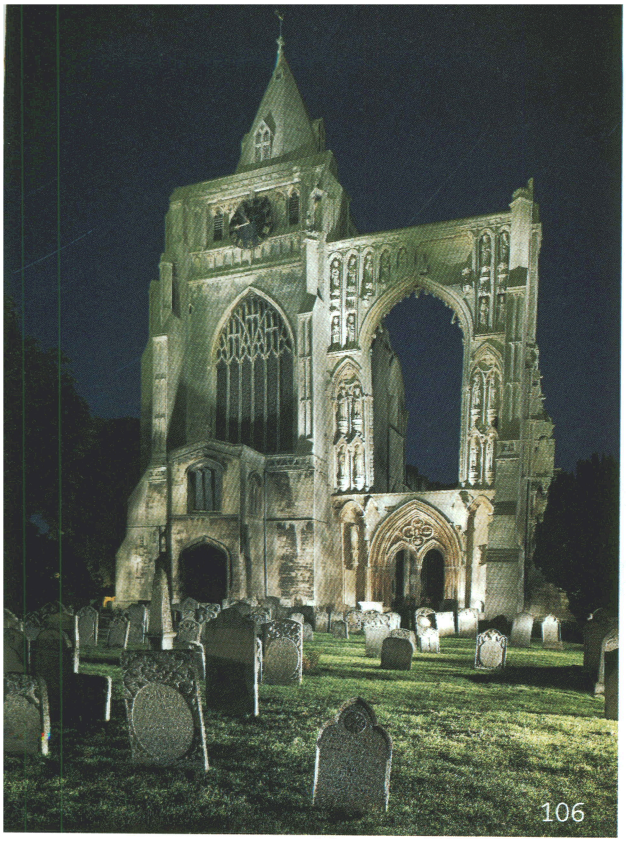

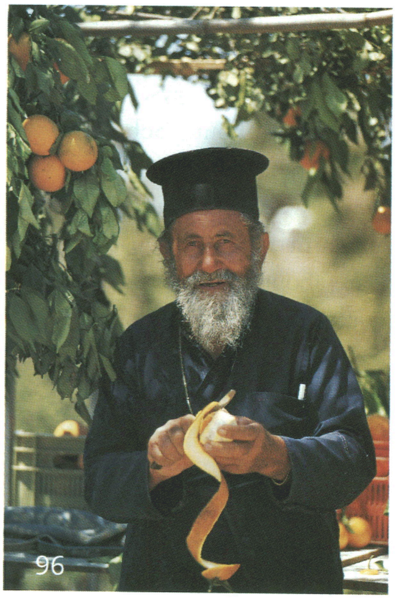

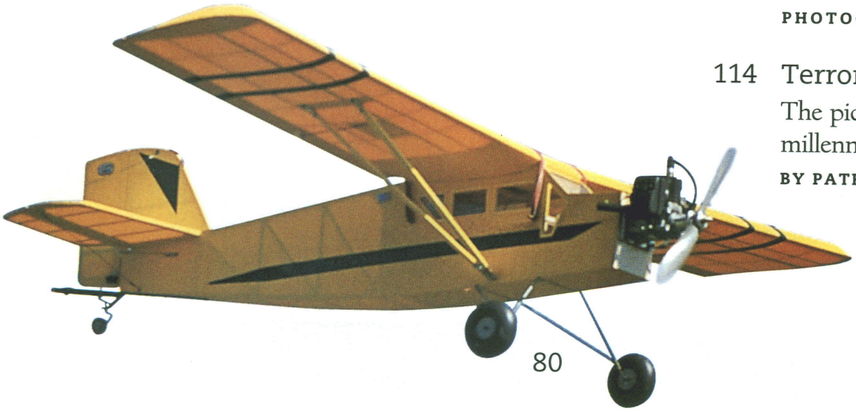

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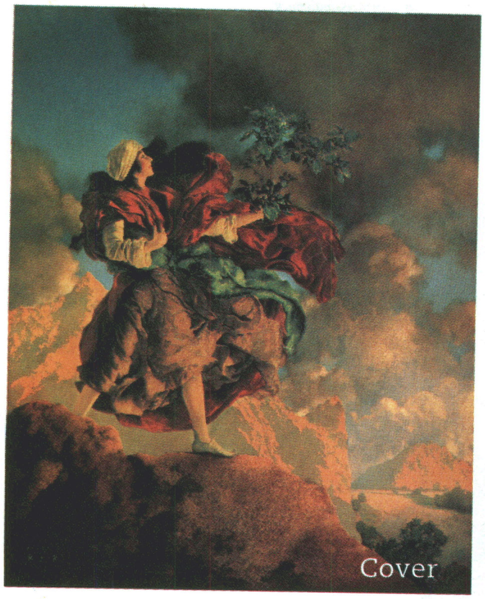

Cover In *Princess Parizade Bringing Home the Singing Tree* (1906), Maxfield Parrish depicts the scene, from the ancient tales known as *The Arabian Nights*, in which the princess finds the magic tree that will make her garden perfect.

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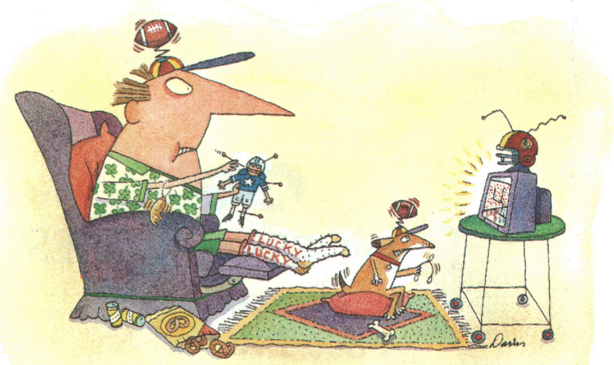

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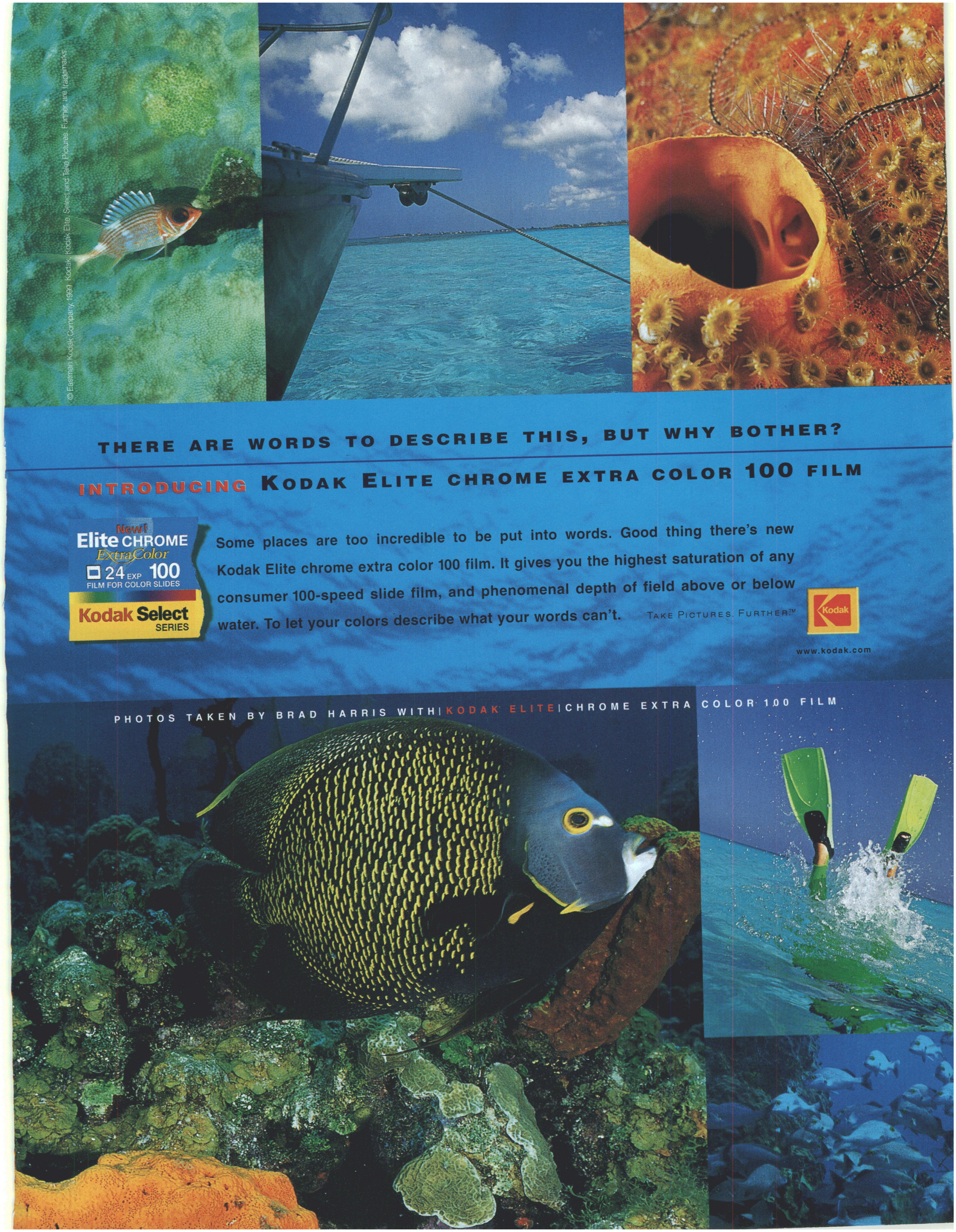

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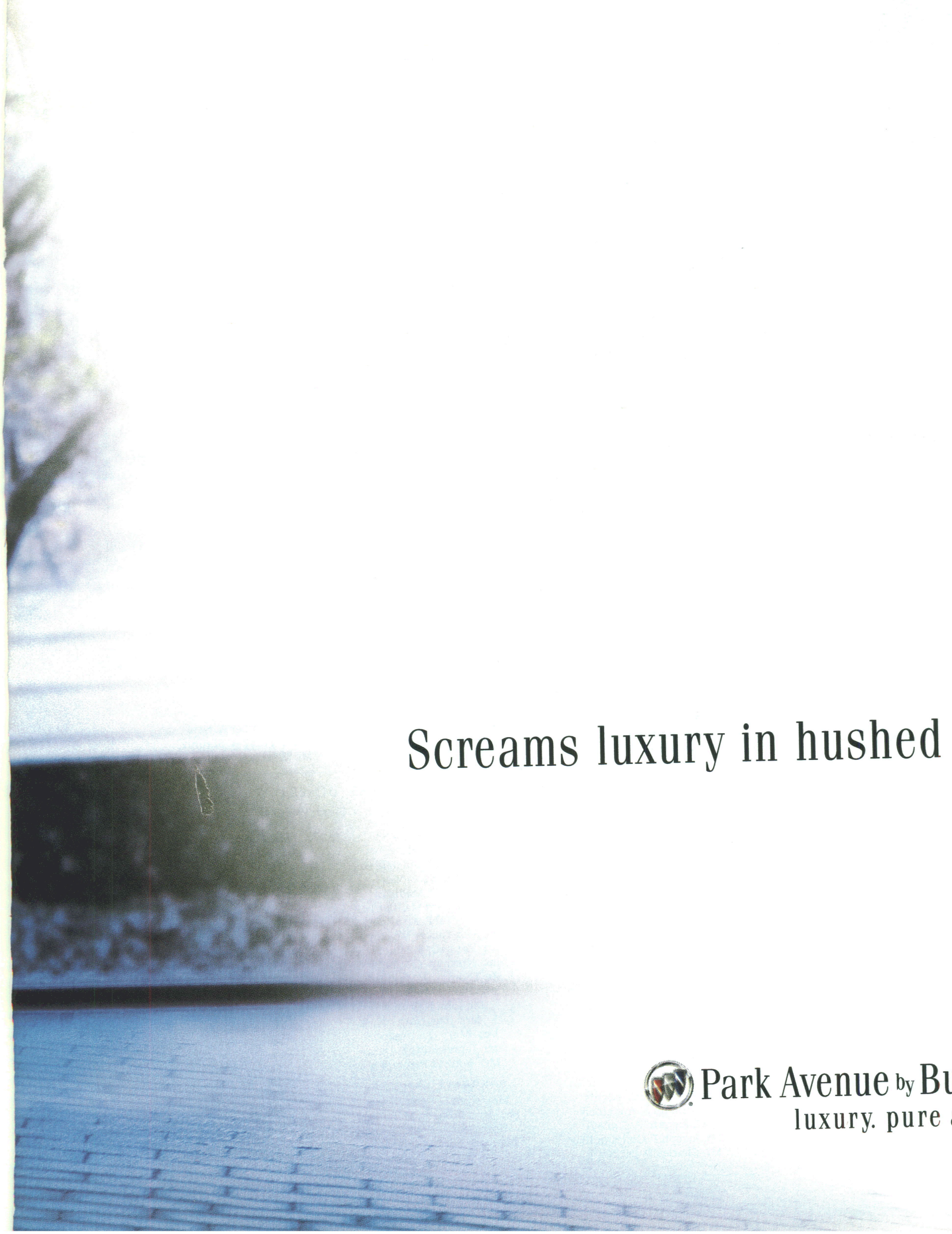

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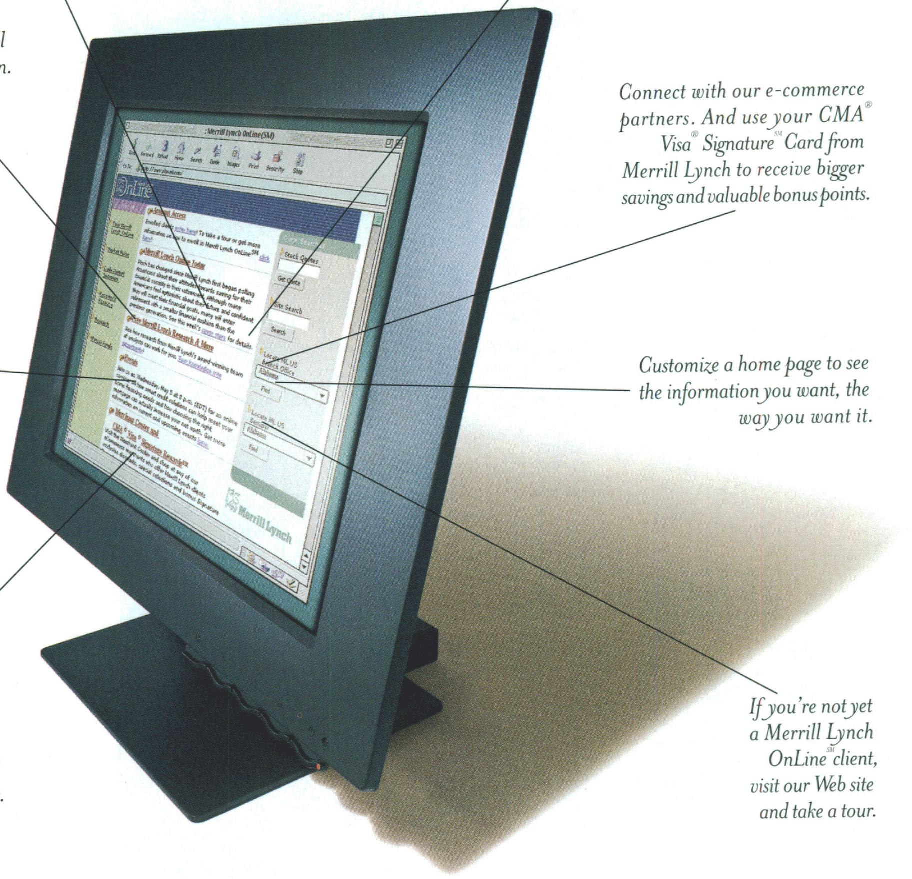

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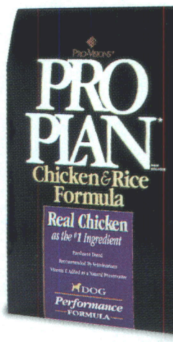
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LETTERS TO THE EDITOR

MONA LISA

IN THE MAY ISSUE, WRITER JOSEPH A. Harriss refers to the computer analysis of the *Mona Lisa* by my mother. I thought your readers might be interested in viewing some of the images (right) that led to her conclusion that the painting was a self-portrait.

Lillian Schwartz, a computer artist and consultant with Lucent Technologies Bell Laboratories Innovations, is a pioneer in the use of computers in art, animation, effects and other applications. Besides studying the *Mona Lisa*, she has investigated Leonardo's use of perspective in the artist's *Last Supper*, Piero della Francesca's use of color in the *Resurrection of Christ* and William Shakespeare's identity [SMITHSONIAN, June 1995]. Most recently my mother's work with Rutgers' Center for Computational Design has determined the "point of no return" for the 800-year-old Leaning Tower of Pisa.

But why would Leonardo traipse around Italy and France with the painting unless it was the artist's smile enigmatically smiling that smile? Perhaps he did envision a future of appropriation and commercialization. In any event, it is Mother's Day as I write this and I must gift wrap the *Mona Lisa* umbrella that I just purchased from a street vendor.

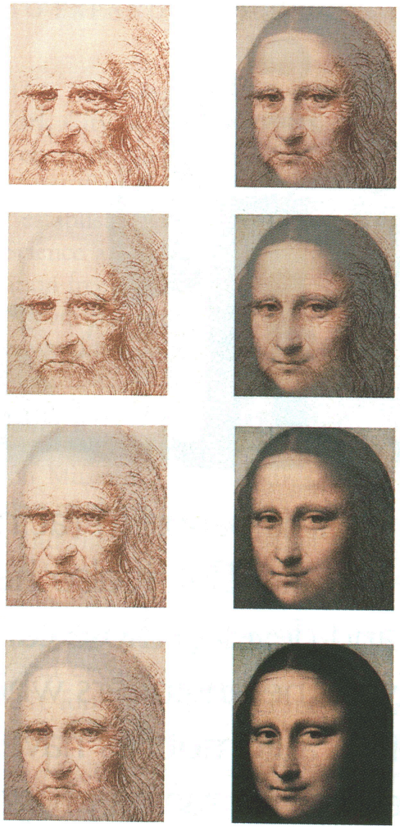
Laurens R. Schwartz
New York, New York

CALL THAT SMILE JUST WHAT IT IS: vacuous. It is a simper, and simpers are not enigmatic.

Jerry H. Simpson, Jr.
Charlotte, North Carolina

NO LIST OF MONA LISA PARODIES IS complete without Bob Shaw's short story "The Gioconda Caper" (*Cosmic Kaleidoscope*, 1976). The protagonist discovers 60 original versions of the *Mona Lisa*, each slightly different from the next, which are arranged in a large wooden precursor to the zoetrope. When cranked up and revolving, it shows the viewer the *Mona Lisa* unveiling her left breast, redraping herself and . . . smiling.

William J. Rapaport
East Amherst, New York



LILLIAN SCHWARTZ

AS I READ YOUR ARTICLE, I COULD almost hear Nat King Cole singing the 1950 hit written by Jay Livingston and Ray Evans: "Do you smile to tempt a lover, Mona Lisa? / Or is this your way to hide a broken heart? . . . / Are you warm, are you real, Mona Lisa? / Or just a cold and lonely, lovely work of art?"

Glenn Sugameli
Arlington, Virginia

FIREFIGHTING ACADEMY

I AM A 30-YEAR VETERAN DRAGON slayer and battalion chief with the Anchorage Fire Department. I thank Jennifer Lee Carrell for her well-written article about our profession. Few folk truly understand the trials, tribulations, successes and losses experienced daily by the frontline team. People dial 9-1-1 and know something will be done, and I'm proud to be a member of that team of responders.

I also thoroughly enjoyed the article on A. C. Gilbert. I fondly remember building everything imaginable with my Erector set.

Daniel Tucker
Wasilla, Alaska

A. C. GILBERT

WHEN I WAS ABOUT 7, MY PARENTS offered me a choice for a holiday gift: lots of little things, such as crayons, coloring books and tops, or one Erector set motor. I didn't hesitate for a moment; the motor it was.

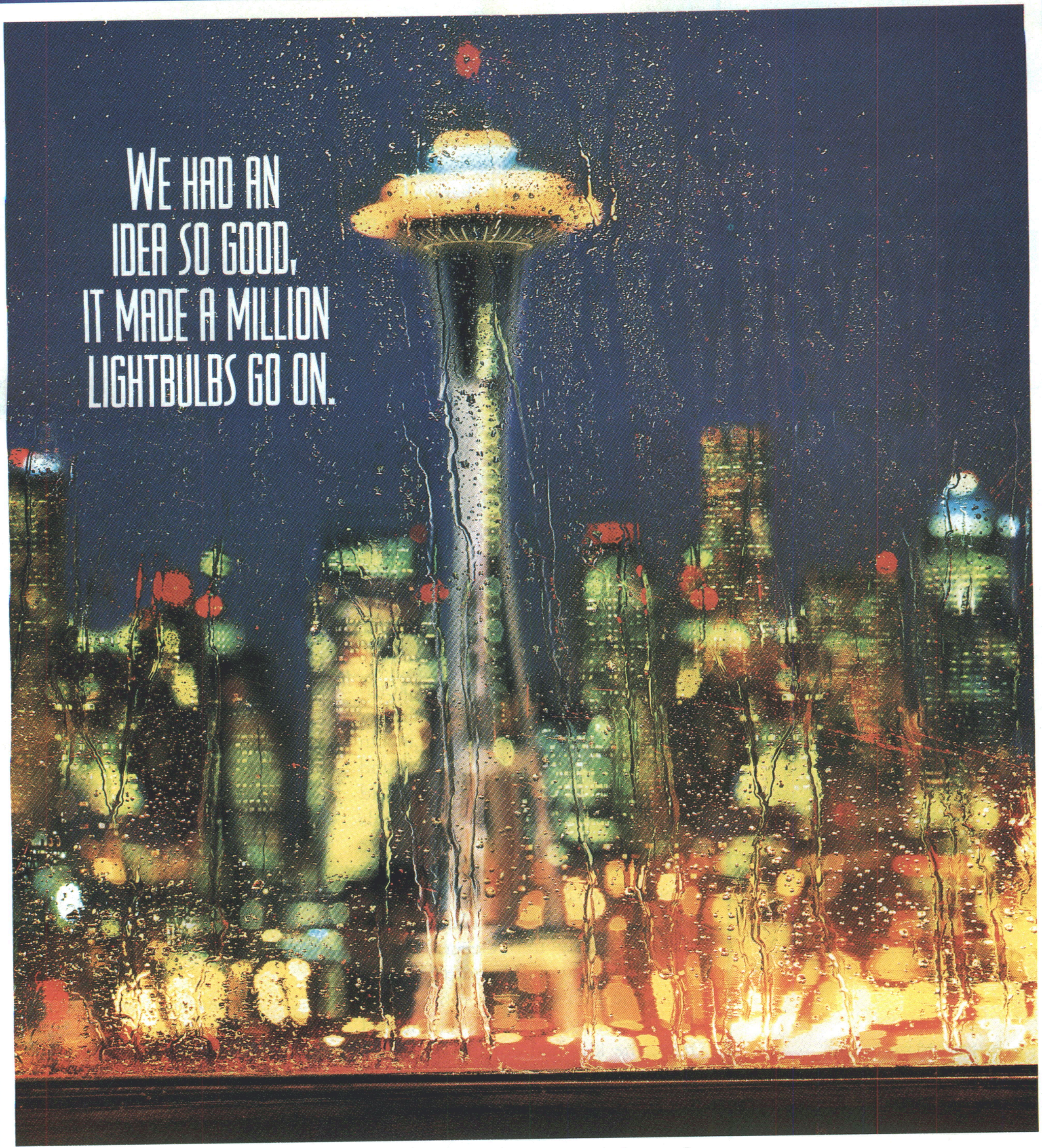
As Bruce Watson reported in his article, A. C. Gilbert had pronounced, "I have solved the boy problem!" His Erector sets solved it for me. I had all the boys at my apartment, playing with me and my marvelous motor. No other girl had a chance.

As an adult, I became a psychologist and a poet, so I don't know what importance the Erector set has in my life today. But I do know, I sure had a good time with it back then.

Marian Kaplun Shapiro
Lexington, Massachusetts

MY FATHER, ORVILLE LOBB, RECEIVED an Erector set for Christmas in 1928 and says he owes his engineering skills and his successful business to A. C. Gilbert. In 1965, my father had to construct a prototype for a humidifier he had designed. He used parts from my brother's Erector set. Soon after, the U.S. Patent Office issued a patent for the Lobb Humidifier.

Marjorie Lobb
Troy, Michigan



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IN 1942, WHEN I WAS 12, I RECEIVED a Gilbert chemistry set. I really loved that set and doing little experiments. The measurements of chemicals that came with it were so small that no one could make but the tiniest amount of dangerous or noxious substances.

One experiment created red-and-green-colored fire. In 1942, the war had just started and no fireworks were allowed. My father dearly loved the Fourth of July, so I bought large quantities of the colored-fire chemicals that had come with my chemistry set and made up paper packages of the powder mixture. We had a great celebration, but it's a wonder we did not get blown up. What I had made, I learned later, was black powder.

Patricia Raygor
Winslow, Arizona

NO ONE KNOWS HOW MANY ARCHItectural or automotive design engineers were first inspired by Lincoln Logs, Tinker Toys, Erector sets and the Fisher Body Craftsman's Guild (FBCG). From 1930 to 1948, thousands of miniature Fisher Body Napoleonic Coach kits were sold for $10 to $20 to aspiring teenage coach builders who competed for college scholarships and trips. From 1948 until General Motors shut down the guild competition in 1968, the kits were for model cars. Unlike today's mass-merchandised toys, the kits had constructive play value and required creativity, imagination and ingenuity. Boys gained how-to knowledge and were instilled with the do-it-yourself work ethic.

I competed in the FBCG model car competitions as a teenager, and a few years later, I worked for GM's FBCG. While volunteering at the National Museum of American History for ten years, I assisted Roger B. White and Bill Withuhn in acquiring ten model car winners and a 1931 Napoleonic Coach winner. These models are on display in NMAH's Road Hall.

I found notable parallels between A. C. Gilbert's scientific toy era and the FBCG's. Their values, virtues and motivations were identical, both tapping the minds of America's youth.

John L. Jacobus
Silver Spring, Maryland

INTERNATIONAL PERFORMANCE INSTITUTE

AN OLD SPORTS ADAGE HAS IT THAT focusing positive attention on a ballplayer in a nationally distributed article will jinx him. The day I read Carl Hoffman's article on the International Performance Institute (IPI) and the help given to the Red Sox's Nomar Garciaparra, I figured Hoffman had cursed the shortstop. But Garciaparra hit three home runs at Fenway Park on May 10, two of them grand slams, and drove in ten runs, punching a hole in the jinx myth. Or maybe it demonstrates the efficacy of IPI's program.

John Rogers
Wilmington, Delaware

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Help Is on the Way

COMBINE THE POWER OF NATURE, ANIMAL COMPANIONSHIP AND MUSIC, AND YOU HAVE A RECIPE FOR HEALING

BY JOHN P. WILEY, JR.

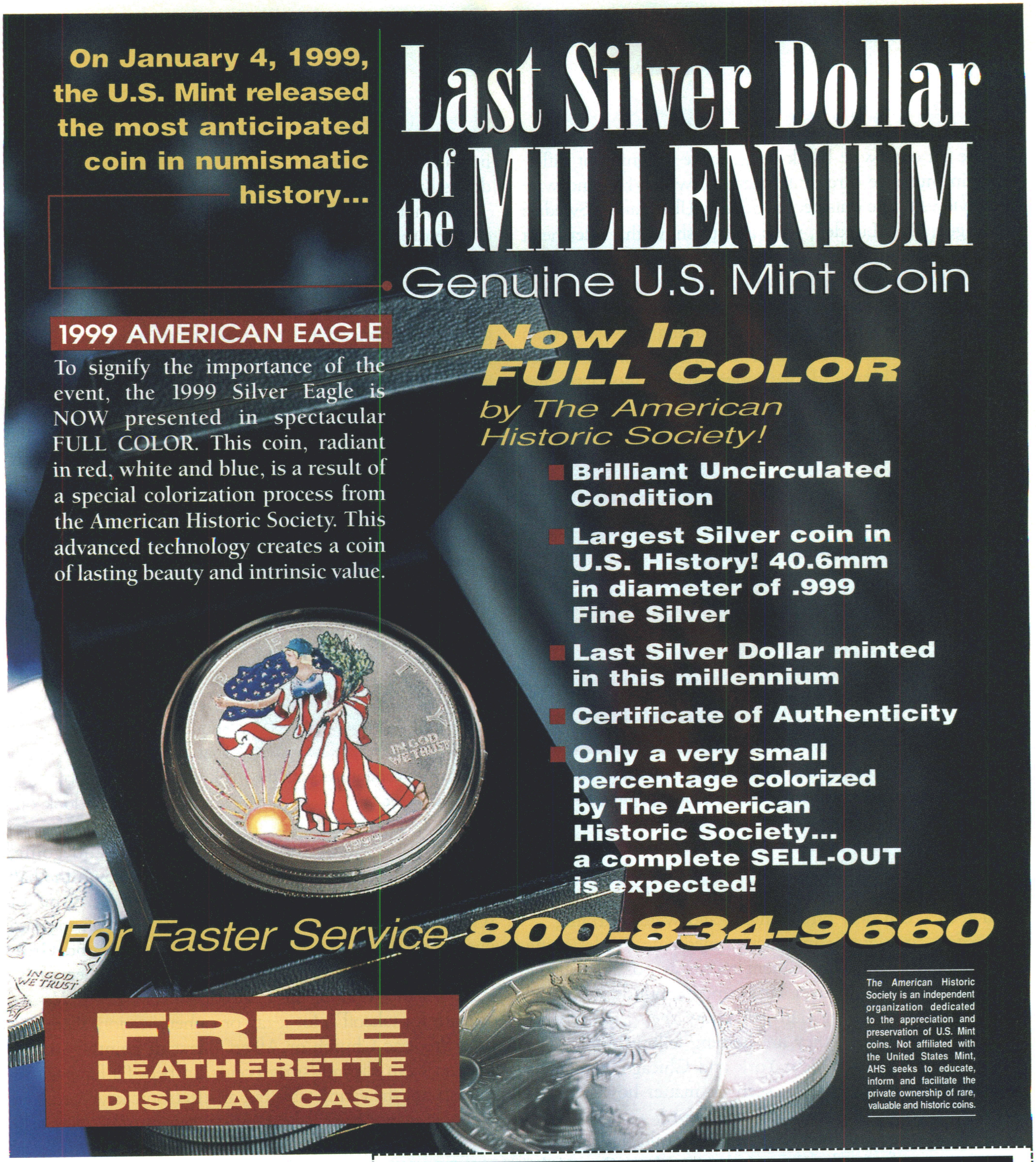
Petting rabbits, dogs and other animals helped decrease depression among the residents of a St. Louis-area health-care center.

KAREN KASMAUSKI (2)

ONCE AGAIN IT TURNS OUT THAT I WAS BORN TOO soon. When my children were born, fathers were not allowed in the delivery room. They were not allowed in the labor room. It was only through the generosity of hospital administrators that fathers were allowed in the building at all, banished to waiting rooms with nothing but old magazines, ashtrays and a clock on the wall. Nowadays, apparently, hospitals have birthing suites with plenty of room for the father, both grandmothers, other assorted relatives and friends, a video camera operator and, for all I know, a caterer.

For hospitals themselves, the physical plants, the revolution is only now beginning, and once again it is happening after I did my time in a number of such institutions. One change has to do with the design of the buildings. Even though the rationale for it surfaced in the 1980s, it will only slowly improve the patient's plight. It has to do with the placement of patients' rooms. Studies back then (and since) have shown that patients who can see trees and other greenery from their hospital rooms recover faster and do better than those who look out to brick walls or ventilation machinery. Edward O. Wilson's hypothesis in his book *Biophilia* turns out to have been true all along: there's something in us that loves a tree, whether it be in a city park, a wilderness or outside our hospital window.

The Joint Commission for the Accreditation of Healthcare Organizations once checked physical plants only for things like fire safety and doorways wide enough for beds to go through. Now it is circulating for review new guidelines that would ascertain whether patients' rooms have views of nature and how much of the view can be seen while lying flat in bed. According to Roger Ulrich, director of the Center for Health Systems & Design at Texas A&M University, designs for new hospitals are taking window views into account; university medical centers often lead the way.



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Studies show that views of nature, even a painting of nature on otherwise blank walls, make a significant difference in intensive care units, many of which have no window views to the outside. Specifically, Ulrich and a Swedish colleague, Outi Lunden, were able to show that after heart surgery, patients who could see a nature picture showed less anxiety, needed fewer strong pain drugs and suffered less temporary cognitive impairment (translation: they could complete a visual/perceptual-functioning test faster than individuals with no picture). There is even some evidence that among ICUs that do have natural light, mortality rates tend to be lower in those that are sunnier.

A resident who shares his room with a cockatiel communes with the center's most popular pet, a chicken named Crisco.

KAREN KASMAUSKI

At the other end of the procedure pipeline, views of nature benefit outpatients waiting for biopsies or cardiac catheterization, because their anxiety levels are reduced. As a patient with one or more blocked coronary arteries becomes anxious, for example, the body's demand for oxygen goes up but the heart cannot supply it. A dangerous arrhythmia can result. Just a taste of nature, however, reduces anxiety in the waiting patients. This works with nothing more than a nature scene printed on the curtains around their holding bays and earphones through which they can hear birds singing and water burbling.

So now architects can practice medicine by designing buildings with as many patient rooms as possible on the outside, looking out over landscaped grounds with gardens. The landscaping staff can know they are not only helping things grow, they are helping fellow humans get better. (In places like New York and Chicago, of course, there may be no trees to be seen no matter how inspired the design, especially from the 20th floor.)

Other changes do not require new buildings, and are happening as fast as human minds can adapt. One is the rapidly growing, completely counterintuitive practice of bringing animals into hospitals and nursing homes. To some people, animals are "dirty." The payoffs for a few stray pet hairs and the occasional drop of drool are enormous, however. Bring a dog or a cat into a patient's room, and that person's blood pressure will drop. Patients are brought out of themselves by the feel of a cat purring or the enthusiasm of a dog that offers unconditional love.

The dog does not know that part of your heart has died and that the rest of your life is filled with similar imperfections. It knows only that you and it are here, nose to nose, figuratively if not literally, living in the present moment. The dog is happy to be there with you, no questions asked.

Still another wave of change is headed for hospitals and even more for nursing homes. Making music, it seems, is not only fun, it is healing. A study of retirees in Michigan and Florida demonstrates that making music increases the participant's level of melatonin, which enhances sleep; growth hormone, which alleviates aches and pains; and B-endorphin, one of the body's own painkillers. Frederick Tims, chairman of musical therapy at Michigan State University, and his colleagues taught retirees to play the organ. The subjects were continually compared with a control group not learning to play. The study found that learning to play stimulated the immune system and enabled participants to handle stress better.

And so it is that I am getting a vision, a mental preview of the possibilities should it ever happen again that the emergency room physician says: "Book 'im." From my bed I'll look out to a pond framed by trees, birds coming and going, bats fluttering in the dusk. Padding up and down the hall will be a parade of the canine world's finest, some of whom will come in to stick a cold, wet nose on mine to check that I'm OK. In one hospital, a 129-pound Great Pyrenees drops in. I defy anyone not to be cheered by such a sight. Waiting in a line of wheelchairs ("We are seventh for takeoff") for x-ray or catheterization, there will be a Frederic Church or Albert Bierstadt painting on the wall so I can slip my surly bonds. In bed, I'll have across my lap not the eating table but an electronic keyboard, and through earphones I'll hear music, my music. Adult self-teaching books these days feature baby versions of real music, up to and including the four-note riff from Beethoven's Fifth, so that beginners can do something right away. What they lack in being able to play lots of notes they make up fooling around with the timing and tempo. Up and down the corridor others may opt for "Stardust" or the "Moonlight Sonata," but I'll try to teach my left hand to get down and dirty so that, in a pale imitation, I can play boogie-woogie. It would be difficult if not impossible to be depressed if the moon was rising behind the trees, a dog in the doorway was wagging its tail and the whole place was cookin' to some barrelhouse piano.

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AROUND THE
MALL & BEYOND

Uncovering the Secrets of Forest Canopies

BY MICHAEL KERNAN

DEEP IN A MARYLAND FOREST, GEORGE RASBERRY SITS on an upturned pail and peers through a camera with a calibrated lens at the trees above him. He is measuring the leaf coverage present at each level of the forest. Here and there in the wilderness, buckets are placed to catch samples of the leaves. These reveal what species are in the canopy and how much it grows annually.

Nearby stands a tower so tall I nearly break my neck to see the top, 165 feet up, a good 30 feet above the canopy. Aluminum arms stick out at intervals, each bearing instruments that measure forest conditions such as light, wind speed and carbon dioxide concentration. The anemometer at the bottom is still, but the ones higher up are turning slowly.

This is the world of George Rasberry, a biological science technician at the Smithsonian Environmental Research Center (SERC) in Edgewater, and of his colleague Geoffrey "Jess" Parker, a forest ecologist there. Parker specializes in the study of the canopy, the importance of which in forest science has only recently been recognized.

In the early 1980s pioneer researcher Terry Erwin collected great showers of insects from the canopy of a tropical forest. "The samples occupied sorters for years. We discovered lots of new species, many of them specific to particular tree species," Parker tells me. For instance, in one tree species in Panama, they found ten times the number of tropical beetle species they expected. When their findings were applied to the whole world, one estimate of the total number of all species went from 1.5 million to 30 million.

"The canopy," Parker says, "is a part of all vegetation. Even your lawn has a canopy. So do vineyards, shrubs, orchards. Most people think it's just the top, but you can't tell where the top ends, or its influence. The canopy is all the leaves, twigs, fine branches—all of the surfaces. It's the surfaces of a forest that drag the wind and make it calm, that take noise out and control rainfall. The forest canopy is home to a majority of earth's species. It combs pollutants out of the air, takes energy from the sun and in general controls the exchanges of energy or heat, and material, such as carbon dioxide and water vapor."

What use is all this information? Well, for instance, I wanted to know why the streams often go dry in the summer in this part of the world.

"It's a lot of invisible things," Parker says, "like taking up carbon dioxide. Everything in the forest, the wood and leaves, was once carbon dioxide. Fallen leaves represent some of the carbon dioxide that was taken up this year. And as carbon dioxide goes into the leaves and wood, water vapor is released. As it is released, there is less in the soil to supply the streams.

Forest ecologist Jess Parker, standing atop a 165-foot meteorological tower, checks the cup of an anemometer to evaluate wind speed above the canopy.

CAMERON DAVIDSON

"Also, tree roots compete for moisture. Trees are just pipes that connect groundwater to the atmosphere: they're valved pipes controlled by leaves. This area has a precipitation of about three or four inches a month. The amount that plants take up and release increases during the growing season, so in summer, streams can go dry."

At SERC the objective is to study one specific area's canopies and from that learn the rules for all canopies. "It's fun to spend a decade looking at one particular forest, but

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SERC scientists are studying some 50 different forest plots. "We know their ages from taking tree-ring cores, and by now we know pretty much what forests in this region do, from the youngest stands, 5 years old, to one that might be 350 years old. This means we can put the canopy structure into context in the general scheme of forest development."

On SERC's 2,800 acres, besides its fine range of forests young and old, are salt marshes, a freshwater marsh, cornfields, winter cover crops and newly abandoned fields.

This 110-year-old forest with 31 species of trees has become a laboratory for SERC scientists studying the environment inside forest canopies.

CAMERON DAVIDSON

"The problem with studying a forest canopy," Parker observes, "is that it's a giant pain to get to. We sometimes climb trees."

The trouble with having to climb, though, is that researchers can only get, say, 80 percent of the way to the top, and the action is at the top 20 percent of the canopy. That's where the light is, where photosynthesis and production take place, where leaves have the highest nutrient content, where carbon dioxide is taken up and water vapor is released, and where the wind decelerates the most dramatically.

"There are other ways to get into the canopy. We can rent a crane, which allows us to come in from above, from the point of view of the atmosphere," he tells me. "When you go up on a tower crane with a video camera, the world is so different from life on the forest floor. It changes your way of thinking."

But a crane is expensive. Another solution is to build a tower. This only gives you a view of one place, and besides, it makes a hole of its own in the forest, skewing some observations. There are various optical techniques for measuring canopies, including a laser that provides a sample of light reflection. And then there are the balloons. These refrigerator-size helium bags were invented by George Rasberry. They can take light sensors and measuring devices up into the trees and reach all sorts of odd places. They also can be raised gradually to take measurements from the ground up to the top of the canopy. And they are cheap.

"Another thing we study is the bumpiness of a forest," Parker tells me. "Not roughness but rugosity, corrugation. A young forest can be very dark, compact, because its growth has been efficient. As the canopy gets taller, the leaves spread out and more light comes in. Some trees die, leaving gaps. New trees grow in, mostly species that thrive in dark places, and gradually the forest becomes more complex, bumpier, with more variations. Assessing a forest's bumpiness is a quick, cheap way to learn what's going on inside," he says.

A laser technique for measuring the bumpiness of canopies also came out of SERC's studies here in Edgewater, one of many SERC contributions to the science of canopies. These studies are becoming steadily more important as people try to manage such things as atmospheric gases and species diversity.

"If a city manager's concern is how to take up greenhouse gases like carbon dioxide, for example, I can advise him to conserve younger forests, which have a higher uptake of CO_2. If his concern is species diversity, however, I would recommend conserving older forests. This whole thing feeds quickly into the question of land management," explains Parker.

The main forest that Parker studies was a pasture 110 years ago. (The SERC buildings stand close by on a former dairy farm.) It is 130 feet tall, with 31 species of trees up to eight inches in diameter. "At 110 years old," he says, "this forest is just postadolescent. It's still vigorous, still putting on more carbon than it gives off. This is my lab."

It is here that his staff measures the trees and calculates their ages, studies the structure of the canopy and analyzes the effects of pollution and other variables.

He also has a staff of volunteers who help measure water flow and leaf nutrients, and who keep an eye on the tree species that come and go in the forest.

"We study the seeding of plants," he says, "and you find that some seeds are eaten by birds, who then sit on a fence and excrete them, so you get a line of cherry trees, or persimmons, or sassafras along the line of an old fence." He added drily, "Poison ivy berries, too. I don't eat them myself, but the birds do."

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Reds versus Whites

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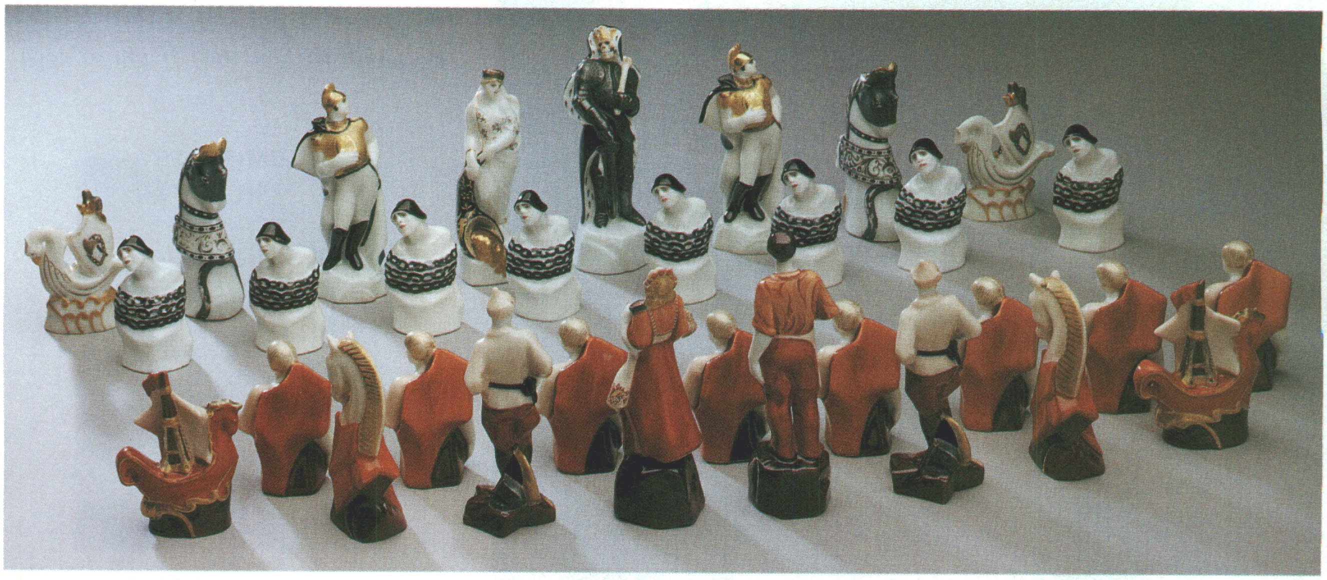
BY EDWARDS PARK



***The Reds and the Whites*, a chess set from the Smithsonian's Cooper-Hewitt, National Design Museum in New York, embodies the Soviet party line of the early 1920s.**

MATT FLYNN/COOPER-HEWITT

As chessmen go, they are large, the king and queen nearly five inches tall, knights and bishops about an inch less, pawns and castles two and a half inches. Most chess sets come with opposed sets of identical pieces. Not these.

Take a good look at the White queen, a lady in a splendid gown who carries a cornucopia spilling over with gold coins. Her Red counterpart on the opposite side of the board is a sturdy young woman in a simple country dress and apron, carrying a sheaf of wheat and flowers.

Political statement here? You bet. This is a Russian chess set, made in 1922-23, when the Russian Revolution was new. Led by Lenin and Trotsky, the Bolsheviks *had* lately taken over Russia, and were still barely afloat in a sea of hostility, their enemies at home known as Whites. So it was a time, if ever there was one, to proclaim the virtues of Communism.

Thus a patriotic chess set, with all the Red pieces vigorous and handsome, workers or soldiers, with hope and revolutionary zeal lighting their clean-cut faces. The broad-shouldered Red king wears a laborer's apron; beside him rests a sledgehammer. By contrast the White king comes clad in ominous black armor swathed in an ermine-lined robe. His face is a skull—a death's head. In fact, except for the pawns, all the White chessmen simply reek of corruption—even the knights are posed in effete attitudes. The pawns are serfs bound in black chains, looking upward in fear and despair.

These days visitors may see the set in the Cooper-Hewitt, National Design Museum in New York, sometimes referred to as "Smithsonian North." Its treasures rotate on display, and can always be "objects at hand" upon request for special viewing. The chess set was donated to the museum in 1994 by the widow of Harrison Salisbury, a celebrated author and Pulitzer Prize-winning foreign correspondent for the *New York Times* who died in 1993. Salisbury wrote a number of books about Russia, including *The 900 Days: The Siege of Leningrad* and *Black Night, White Snow: Russia's Revolutions 1905-1917*.

Despite long use, the porcelain figures still glow today as if just glazed. Nearly 80 years ago, when they were fired, the recently nationalized State

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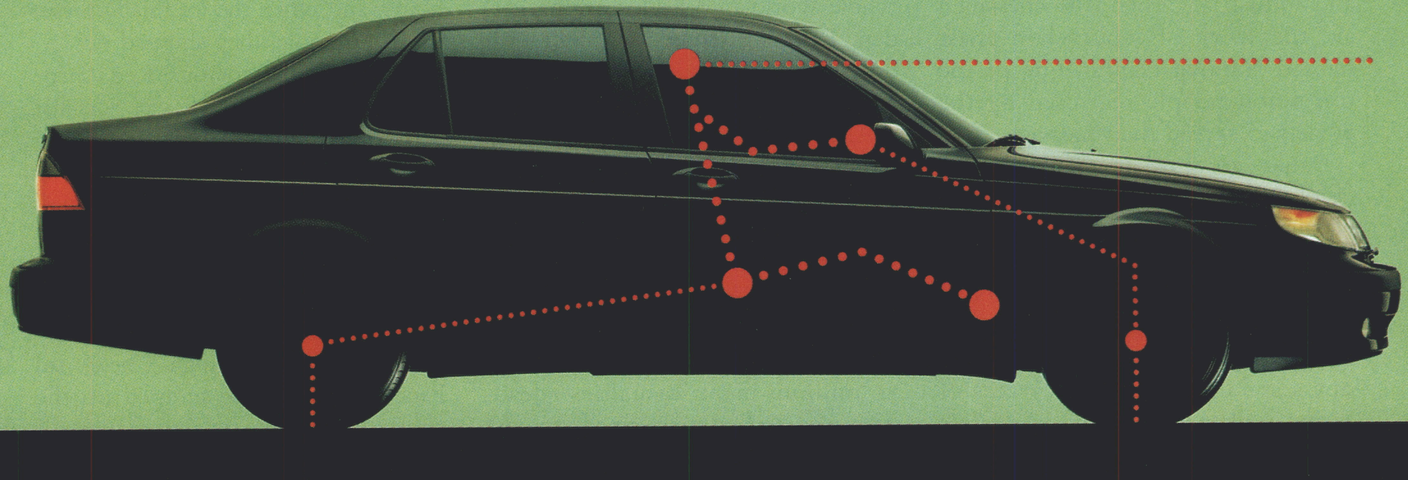

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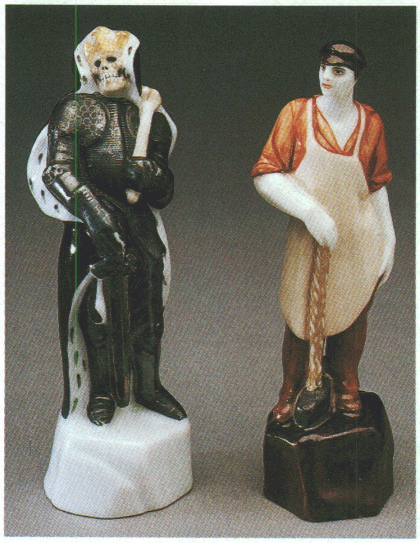
(formerly Imperial) Porcelain Factory in Petrograd (formerly St. Petersburg and soon to be renamed Leningrad) had swiftly adapted its products to the new Bolshevik revolutionary realities. Gone were the scenes and figures idealizing the lifestyles of a privileged czar and the Russian nobility. Instead, plates and tea sets were decorated with factories, their chimneys spouting smoke, or the grain-rich meadows of collective farms.

Floral motifs still appeared—often surrounding a red star or a hammer and sickle. Scenes featured workers hefting hoes and spades, or farm maidens bearing sheaves and sickles. The soldier with a red-starred hat badge or the sailor carrying a red flag were good sellers. Ceramic noblemen vanished, however, except as symbols of outdated exploitation.

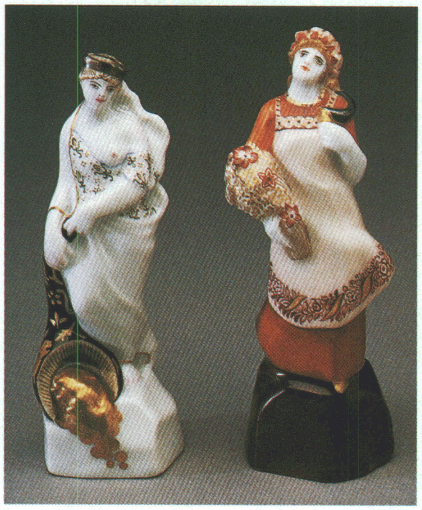
Three-quarters of a century later, the once-mighty Soviet Union is gone, collapsed and fragmented into a collection of restless Slavic and Asian states. As the agony of the revolution and the horrors of Stalin's purges fade, reminders of the confident Red propaganda of the early 1920s now seem harmless, even faintly ironic. But the Cooper-Hewitt chess set still hammers home the old Communist line with idealistic conviction.

According to Deborah Sampson Shinn, assistant curator of applied arts and industrial design, the chessmen are the work of a porcelain artist named Natalya Danko, one of the top-notch people recruited by the Soviets to spread their message.

Danko grew up in St. Petersburg (as of 1991 restored to its czarist name). Natalya's sister, Elena, working in the same factory, recalled the city as the violence of revolution swept through it, noting "its deserted houses plunged into darkness and cold, their windows spikily starred with traces of recent bullets." In the midst of this grim scene, she remarks on a window display of porcelains. "There stood tiny porcelain Red Guards, sailors and partisans, and new 'Reds and Whites' chess sets sparkled. A large plate bore a legend, encircled by a garland of flowers: 'We will turn the whole world into a blossoming garden.' Passers-by would stop at a window and gaze long at the china . . . a message from a beautiful future. . . . "



Red pieces depict wholesome revolutionaries. White "reactionaries" are soft, evil.



Alas, a future not to be realized. Or rather, a dream betrayed in blood and terror. In 1917, the Russian empire of the Romanovs, rotting at its core, had been struggling for three years to keep the armies of Germany and Austria at bay on World War I's Eastern Front. Czar Nicholas II had mobilized about 12 million men; casualties—dead, wounded and missing—finally topped 50 percent. The soldiers, illiterate but sturdy peasants, were often misused by incompetent officers. On the home front, inflation, hunger and disillusionment led to protest marches—met by the bullets of the police and military. Perhaps a million Russian soldiers deserted. Many of those stationed in St. Petersburg mutinied to join the growing revolution.

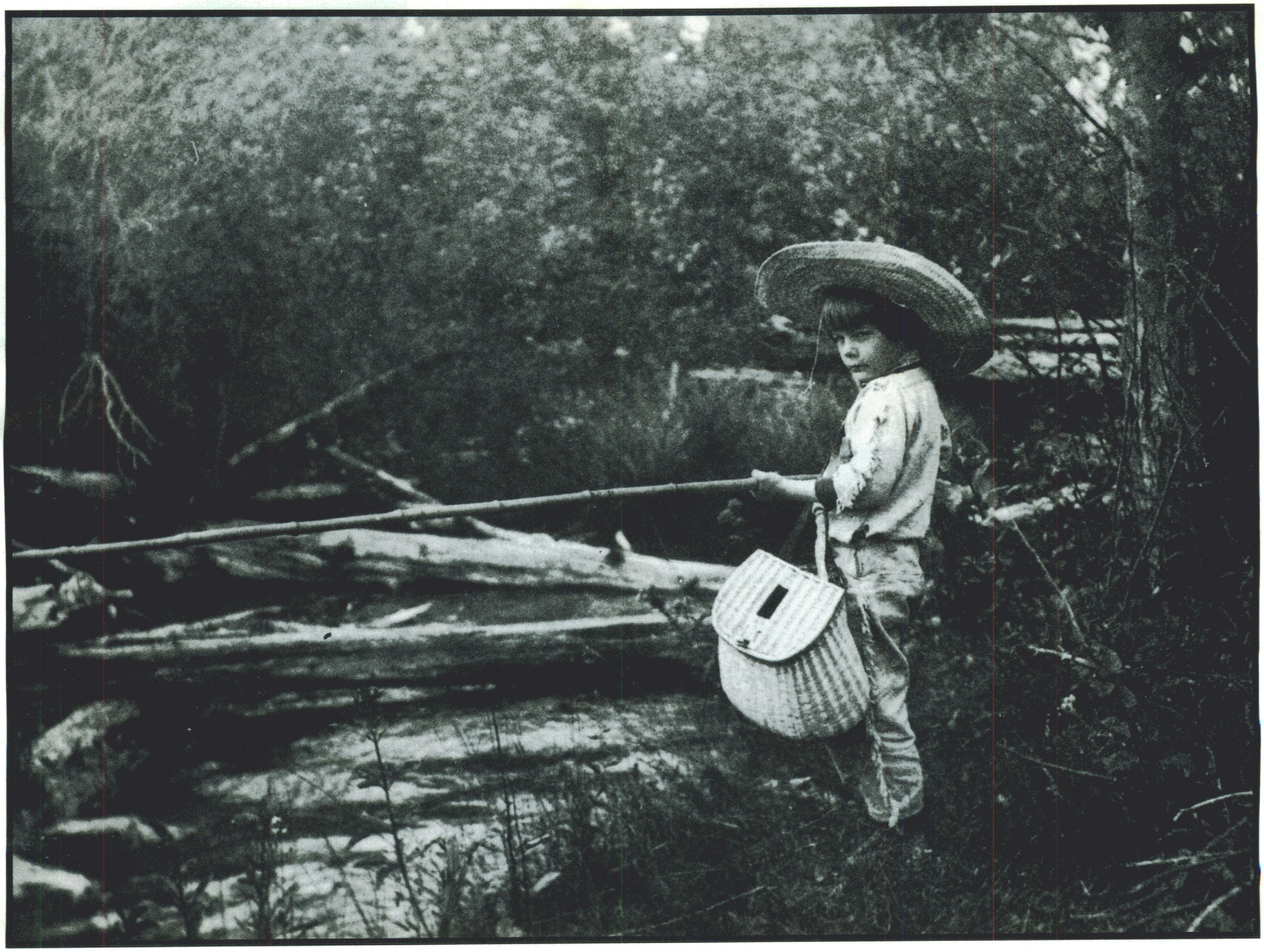
The czar was forced to abdicate. A provisional government took shape under a mixed group of notables, but it was local councils—the soviets—who really governed. When Lenin's Bolsheviks—the Russian Communist party that had long been plotting revolution—suddenly took over, its enemies were legion. Leon Trotsky set about training a Red army to defend the still precarious Communist grip on government.

At first the Reds seemed about to lose to the Whites. The Whites did have financial support from the Western Allies, and in 1918 British, French and American soldiers actually landed in northern Russia, in Murmansk and later Archangel. The Americans, part of the 85th Division, recruited largely in Michigan and Wisconsin for World War I, were put under British command and briefly got into action against the Reds. But their hearts weren't in this savage civil war. Some are said to have actually mutinied; others petitioned their officers to call the whole thing off. They all wanted to go home, and when the ice finally broke up in June 1919, they shipped out.

When the victorious Reds proclaimed the Union of Soviet Socialist Republics, they executed many Whites, as well as the czar and his wife and children. Others slipped away into exile.

Natalya Danko designed her colorful chess set when the fighting was over. Limited production probably kept the price quite high. Chess-mad Russians doubtless scraped up the rubles for it anyway. For a while it must have seemed odd to play White. If you did, was it politically incorrect to win? ♜

MATT FLYNN/COOPER-HEWITT (2)



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Portrait of the Author as a Young Man

SMITHSONIAN HIGHLIGHTS

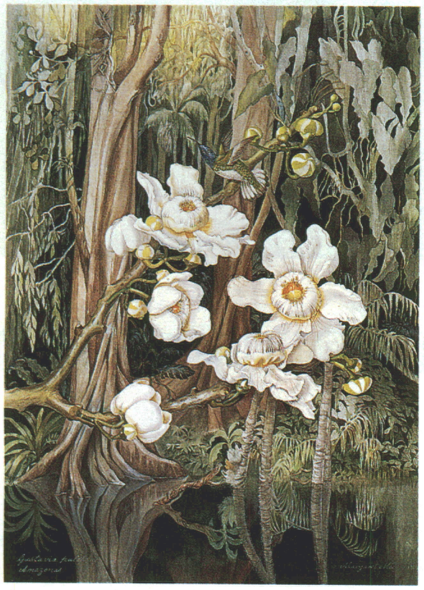
THE FISHERMAN IN THIS 1905 PICTURE went on to become famous as an angler, a hunter and one of the greatest writers of this century. July 21 would have been Ernest Hemingway's 100th birthday. There will be no shortage of photographs. Hemingway thrived on showing off, presenting himself as a character more fantastic than any he put in a story. Flashbulbs popped, and he posed—boxing, reporting, carousing, lounging. Writes biographer Michael Reynolds: "Brawny, bearded in a clean-shaven America, bare-chested, he was who he was, and we loved him for it. Single-handedly, he became a spectator sport. . . . " *Hemingway's* family spent summers at their woodland cottage; his father taught him to observe wildlife carefully and to fish. When Ernest was only 3, his mother boasted: "He knows when he gets a bite and lands them all himself." Operatically trained and highly imaginative, she often shocked people with her flamboyant derring-do, riding a bicycle, being the first woman in town to vote. Ernest inherited her vigorous style. Tragically, as a young adult he came to detest his parents. They harshly denounced his work as filthy, not focused on life's morally uplifting aspects. "Picturing Hemingway: A Writer in His Time" is on view at the National Portrait Gallery through November 7 and, in part, at www.smithsonianmag.si.edu. A book—handsome as its subject—by curator Frederick Voss, with an essay by Reynolds, accompanies the exhibition. *—Bruce Hathaway*

SMITHSONIAN HIGHLIGHTS

Botanical Art

WATERCOLORS BY MARGARET MEE

British botanical artist Margaret Mee (1909-88) lived in Brazil and traveled widely through Amazonia for more than three decades. A passionate conservationist, she devoted her life to recording the beauty and diversity of the Amazon, and was one of the first to raise a voice against destruction and exploitation there. Currently on view at the National Museum of Natural History are 52 splendid watercolor paintings by Mee—the best scientific record of Amazonian plants ever created—as well as sketches, diaries and field equipment. After closing on August 20, the exhibition will begin a national tour.



***Gustavia pulcra* climbs up to 60 feet in the understories of Amazonian forests.**

Elvis et al. in the Courtyard

NPG CONCERT SERIES

"The Age of Elvis: The Roots of Rock and Roll" is a series of free lunchtime and evening concerts—rhythm and blues, rockabilly, Latin, doo-wop and soul—each Thursday in July in the National Portrait Gallery courtyard. Lunch is available at the noontime concerts, 12:30 to 1:30 P.M. Beverages can be purchased at the evening concerts, 6:30 to 7:30 P.M. The rain location is the NPG Great Hall. For information, call 202-357-2700.

SMITHSONIAN Website

WWW.SMITHSONIANMAG.SI.EDU

A good place to learn more about the exhibitions, events, publications, programs and activities of the Smithsonian is our Website. There you will find the *Highlights Calendar* with links to the many pages of the Smithsonian Institution Website.

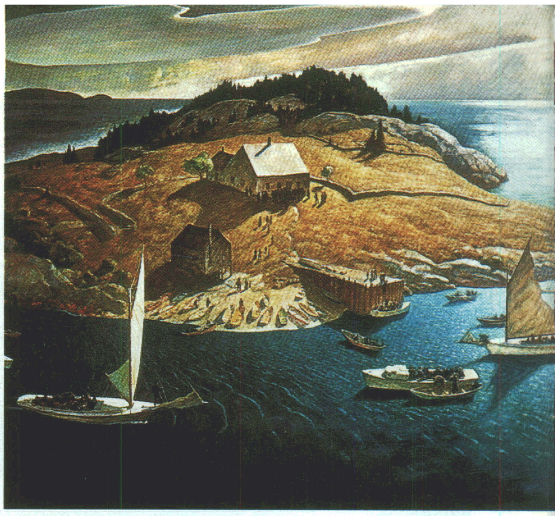
Exhibitions, Events

ART NIGHT ON THE MALL

South Asian dance, music from Malawi, modern art from South Africa, films, a variety of children's activities and alfresco dining will be among the offerings at Art Night this year. Through September 2, the Arthur M. Sackler Gallery, the Freer Gallery of Art, the Hirshhorn Museum & Sculpture Garden and the National Museum of African Art will be open Thursday evenings until 8.

SUMMER SCIENCE NIGHTS MICROBES AND MORE

Through September 6, the International Gallery, the National Museum of Natural History and the National Museum of American History will be open late every night until 7:30, and the National Air and Space Museum will be open from 9:30 A.M. until 6 P.M. daily. "Microbes," an elaborate, interactive children's exhibition, is featured at the International Gallery.



***Island Funeral* (detail) by N. C. Wyeth is in "Picturing Old New England" at NMAA.**

NEW THEATER, NEW CAFÉ

The National Museum of Natural History's new Discovery Center includes a state-of-the-art 3-D IMAX theater (now showing *Africa's Elephant Kingdom*, a spectacular 2-D IMAX film), expanded museum shops and the 600-seat Atrium Café. For information, call 202-633-7400.

ENID A. HAUPT GARDEN

Under the Sun: An Outdoor Exhibition of Light (through September 6) Created by the Cooper-Hewitt, National Design Museum, a festive exploration of solar technology.

NATIONAL MUSEUM OF AFRICAN ART

Claiming Art/Reclaiming Space: Post-Apartheid Art from South Africa (through September 26) The many forms, ideas and emotions, social and political views, expressed by contemporary South African artists.

ARTS AND INDUSTRIES BUILDING

From Bento to Mixed Plate: Americans of Japanese Ancestry in Multicultural Hawaii (through November 30) Personal artifacts, photographs and a small 19th-century locomotive from a sugar plantation tell the story from immigration to the present.

Revue Noire: Africa by Africans A century of African photography includ-

TOP: HOTEL DUPONT COLLECTION, WILMINGTON, DELAWARE; BOTTOM: ROYAL BOTANIC GARDENS, LONDON

ing studio portraiture and official press photography.
Discovery Theater Live theater for youngsters. Call 202-357-1500 (voice or TTY) weekdays, 8 A.M.-4 P.M.

COOPER-HEWITT, NATIONAL DESIGN MUSEUM
[NEW YORK CITY]

The Huguenot Legacy: English Silver, 1680-1760 (through August 8) One hundred outstanding examples of 17th- and 18th-century English silver.
El Nuevo Mundo: The Landscape of Latino Los Angeles (through September 5) One hundred photographs by documentarian Camilo José Vergara.

HEYE CENTER, NATIONAL MUSEUM OF THE AMERICAN INDIAN
[NEW YORK CITY]

Pomo Indian Basket Weavers: Their Baskets and the Art Market (through August 15)

NATIONAL MUSEUM OF AMERICAN HISTORY

Preserving the Star-Spangled Banner: The Flag that Inspired the National Anthem Visitors can see some of the work being done as part of the three-year-long conservation process.

NATIONAL MUSEUM OF NATURAL HISTORY

Ainu: Spirit of a Northern People An unprecedented, in-depth look at the 10,000-year-old culture of the Ainu, the indigenous people of northern Japan.

NATIONAL AIR AND SPACE MUSEUM

And a Star to Steer Her By A planetarium show (fee) and an accompanying exhibition, *GPS: A New Constellation*, explore the history of navigation.

HIRSHHORN MUSEUM & SCULPTURE GARDEN

Brice Marden, Work of the 1990s: Paintings, Drawings, and Prints (through September 6) Evocative abstract works with weblike interlocking lines and sophisticated color.

NATIONAL POSTAL MUSEUM

Down with the Frauds: Taxation as Consumer Protection (through September 10) More than 25 extremely rare revenue stamps on view in the Rarities Vault.

FREER GALLERY OF ART

Masterpieces of Chinese Painting Works from the Freer's renowned collection, including scrolls, murals and screens.

ARTHUR M. SACKLER GALLERY

Devi: The Great Goddess (through September 6) See SMITHSONIAN, June 1999.

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Behind the Himalayas: Paintings of Mustang (through September 26)

NATIONAL PORTRAIT GALLERY

George and Martha Washington: Portraits from the Presidential Years (through August 8)
Hans Namuth: Portraits (through September 6) Photographs of artists, architects, writers and musicians.

NATIONAL MUSEUM OF AMERICAN ART

Prints by Hiratsuka (through September 12) More than 20 black-and-white woodcuts by Unichi Hiratsuka.
Picturing Old New England: Image and Memory (through August 22)

Planning a Visit?

THE CASTLE—INFORMATION CENTER

Begin your visit at the Smithsonian Information Center's Associates' Reception Desk—open 9 A.M. - 4 P.M. daily—in the Castle. Special materials and information on exhibitions, activities and dining await you there. Learn what's new at the Smithsonian and other capital attractions—with brochures, videos, touch screens, electronic maps and more. Smithsonian museums are generally open 10 A.M.-5:30 P.M. daily, except December 25. Summer hours for the grounds at the National Zoo are 6 A.M. to 8 P.M. daily. Receive a free Associates' planning packet: write to Smithsonian Information, Smithsonian Institution, Washington, D.C. 20560-0010, or send your request via e-mail to info@info.si.edu, or call 202-357-2700 (voice) or 202-357-1729 (TTY), 9 A.M.-5 P.M., Monday-Friday; 10 A.M.-4 P.M., Saturday-Sunday. Note: Parking on the Mall is limited; Metrorail (subway) is convenient to most museums.

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BOOK REVIEWS

China plans to add 18,000 megawatts of electric capacity per year, equal to Louisiana's entire power grid, doubling or tripling coal burning by the year 2020.

Earth Odyssey: Around the World in Search of Our Environmental Future

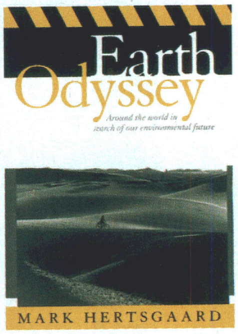
Mark Hertsgaard

Broadway Books, $26

"THE LIGHT IS MUTE IN CHONGQING nearly all the time in winter," writes Mark Hertsgaard. And he asks: Is Chongqing our future?

Chongqing is dim, we learn, because this industrial city has some of the worst air pollution in China, "which makes it a strong candidate for the most polluted city in the world." It has other sorts of pollution, too. Behind the local paper factory, Hertsgaard finds pipes spewing various colors into the Jialing River, including "bizarre clusters of dried orange foam the size of pineapples." A second pipe spews black sewage. And from a third flows a "vast, roaring torrent of white, easily 30 yards wide, splashing down the hillside from the rear of the factory like a waterfall of boiling milk." Pollution, it turns out, has its own aesthetic, however grotesque: "Decades of unhindered discharge had left the rocks coated with a creamlike residue, creating a perversely beautiful white-on-white effect."

A few minutes later, Hertsgaard and his Chinese interpreter must hold their breaths and run from a cloud of poisonous chlorine. "My poor country," the interpreter mutters. "My poor country." By this book's end, many readers may also find themselves muttering, "My poor world."



After traveling through China, Hertsgaard notes, "Everywhere, it seemed, the land had been scalped, the water poisoned, the air made toxic and dark." In this country of at least 1.22 billion people, expected to be the world's largest economy by the year 2010, water and air pollution kill more than 2 million people a year. Up to 90 percent of the rainfalls in Guangdong, center of China's economic boom, are acid. Lung disease causes a quarter of all Chinese deaths. Between 1950 and 1990, sprawl and erosion ate up as much farmland as exists in Germany, France and the United Kingdom, combined. Already choking on power plant fumes, China plans to add 18,000 megawatts of electric capacity per year, equal to Louisiana's entire power grid, doubling or tripling coal burning by the year 2020.

To see if humanity can survive its self-befouling, Hertsgaard traveled the world for six years. He saw many reasons to despair, and a few to hope.

As the research director at France's chief scientific institute told him, it will be tough solving such problems as global warming (atmospheric carbon dioxide has risen 30 percent since the Industrial Revolution) and exploding population (a billion more people every 12 years): "You can't just have two men sit down at a table and agree to stop being stupid."

In Bangkok, Hertsgaard shows us nonstop 24-hour traffic jams. Also in Bangkok he spent a week hospitalized because "most of my white blood cells abruptly vanished one morning, the victims of contaminated water." In the Sudan, we hear a nutritionist lecture starving Dinkas on how to prevent the common and deadly diarrhea, which is killing their children. A woman asks: "We know how to boil water like you say, but you tell us to mix salt and sugar with it before we give it to our children. You know we don't have these things. So why do you tell us this?" "I realize that," the nutritionist replies. "Still, you must do the best you can with what you have."

The average American car, we learn, "assuming (generously) that it gets the federally required 27.5 miles per gallon of gasoline and travels one hundred thousand miles in its lifetime, ends up emitting nearly 35 tons of carbon dioxide," the global-warming gas. Meanwhile, since 1950 world population has doubled, but cars have increased by a factor of ten. Pollution has costs: 11 percent of Russia's children are now born with birth defects.

WHEN HERTSGAARD PAUSES FOR a visit home, he confronts the rich-poor gap: "Many San Franciscans were wearing more money than African and Chinese peasants would earn in a lifetime." Industrialized countries lecture southerners on destroying rain forests, but with 25 percent of the world's population, they burn 70 percent of its fossil fuels. "We are," says Hertsgaard, "akin to a glutton admonishing a beggar on the evil of carbohydrates—he lacks a certain moral authority."

Hertsgaard does perceive hope in

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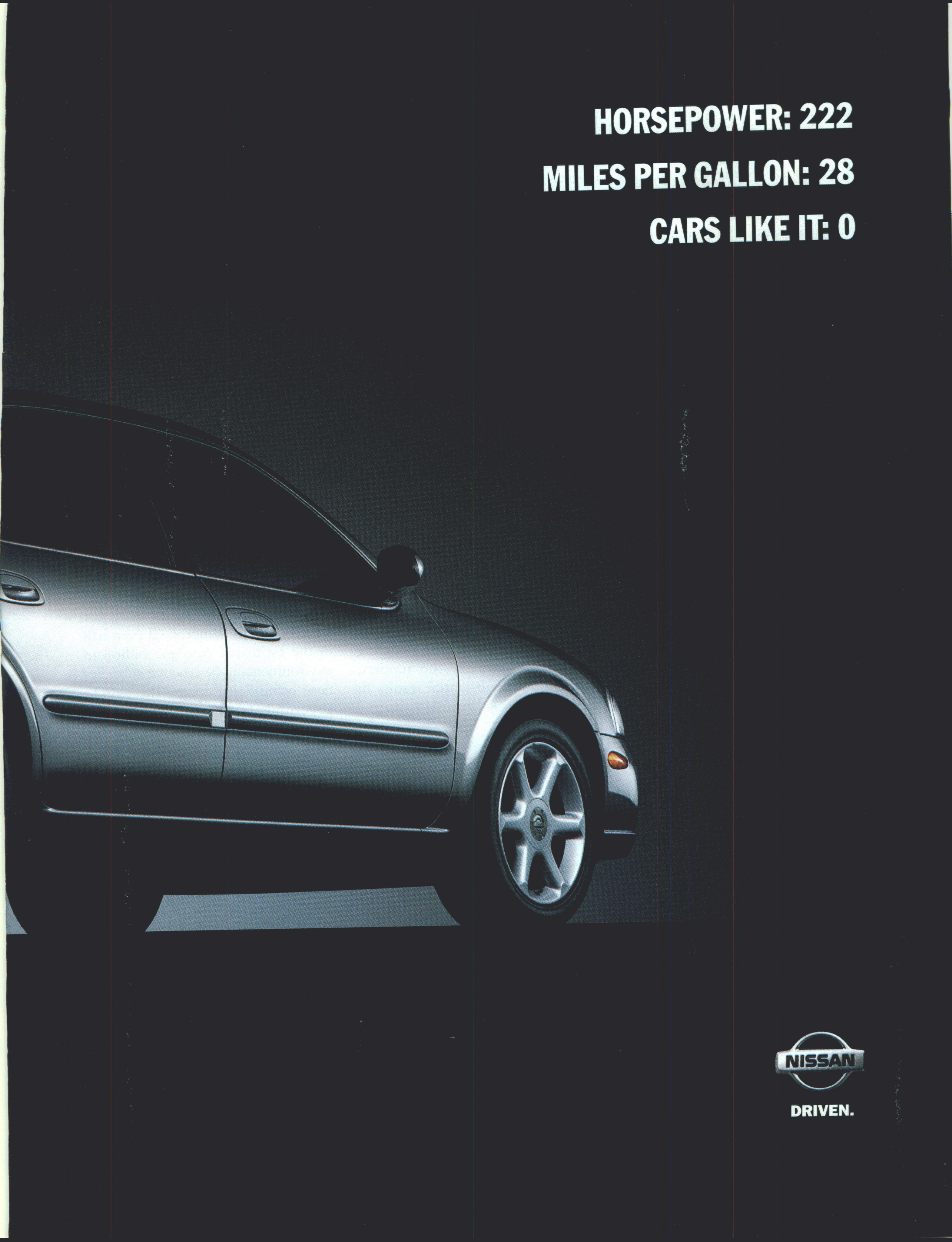
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certain arenas. For one thing, through simple efficiency, Germany and Japan consume energy at half the U.S. rate. And Hertsgaard says: “In fact, if humans are smart, repairing the environment could become one of the biggest businesses of the coming century, a huge source of profits, jobs, and general economic well-being.”

As a matter of fact, in April 1999, just after this book’s publication, China’s premier visited the United States. He said America could cut its Chinese trade imbalance while at the same time helping China with its horrendous air pollution by exporting clean coal-burning technologies. (This spring, too, the U.S. Environmental Protection Agency signed an agreement to adapt acid-rain control programs to Chinese needs.) As Hertsgaard puts it, “restoring our embattled environment could become the biggest stimulus program for jobs and business in history.”

> *“If even half of the estimated $500-900 billion in environmentally destructive subsidies now being doled out by the world’s governments were pointed in the opposite direction, the Global Green Deal would be off to a roaring start.”*

An enlightened acknowledgment that comprehensive solutions are called for could, in Hertsgaard’s estimation, serve as the basis for charting our course for the future. “Some environmentalists,” he writes, “have suggested that the race to the moon in the 1960s serve as the model for the race now needed to save the earth.” The analogy is apt: that extraordinary effort demonstrated how a “clear mission and deadline can focus resources and fire public enthusiasm.”

PERHAPS, HERTSGAARD SUGGESTS, we should draw on the lessons of yet another inspired effort to implement profound change: “Why not,” he asks, “revive these New Deal policies but apply them in a green and global fashion?”

His book is admirable in its willingness not only to document the dimensions of environmental degradation imperiling the planet, but in its careful attempt to suggest real strategies for change. Hertsgaard is, at heart, a pragmatist. “Most people,” he writes, “want to do right by the environment and, if given the chance, they will—as long as they are not penalized economically for it.”

He recommends, for example, that the federal government should alter certain tax, subsidy and economic accounting systems in order to support environmentalist problem solving. Federal investment in the fledgling solar power industry, he reports, could produce substantial results in the near future.

WE HAVE ONLY TO LOOK AT THE success of similar efforts, to extrapolate about the possibilities. Investment by the Pentagon during the 1960s, he points out, fueled the rise of the computer industry. In the 1990s, the Clinton Administration was instrumental in creating a market when the federal bureaucracy began purchasing recycled, rather than virgin, paper.

In a year’s time, he adds, the government purchases seven million vehicles. If even a substantial fraction of those automobiles were fuel cell- or hybrid-powered, Washington “could help create market demand for green cars. . . . There would be a certain poetic justice in this, for the government’s lavish subsidy of conventional automobiles throughout the twentieth century is no small cause of our current problems.” The government, he contends, can be the catalyst for new directions in the marketplace.

But that approach offers only a beginning. The underlying issue is that a redistribution of resources, worldwide, is called for. “Contrary to conventional wisdom,” Hertsgaard observes, “there is lots of money available—we’re just spending it foolishly at the moment. . . . *Even minor* redeployment of resources can yield large gains.” One estimate for the price tag put on preserving two-thirds of the Amazon rain forest is $3 billion—approximately the amount of cash that is required to purchase just six U.S. Stealth bombers. “If even half of the estimated $500-900 billion in environmentally destructive subsidies now being doled out by the world’s governments were pointed in the opposite direction, the Global Green Deal would be off to a roaring start.”

Finally, Hertsgaard tackles the thorny problem of consumption patterns. The wealthy nations of the world are hooked on material acquisition. The point is to strike a proper balance—improving conditions in the impoverished countries and convincing better-off nations and individuals that it is in their interest to share rather than squander resources.

The need for application of inspired solutions could not be more urgent. “Human beings may or may not still be able to halt the drift toward ecological disaster,” he writes. “But we will find out only if we rouse ourselves and take common and determined action.”

Richard Wolkomir writes from Vermont.

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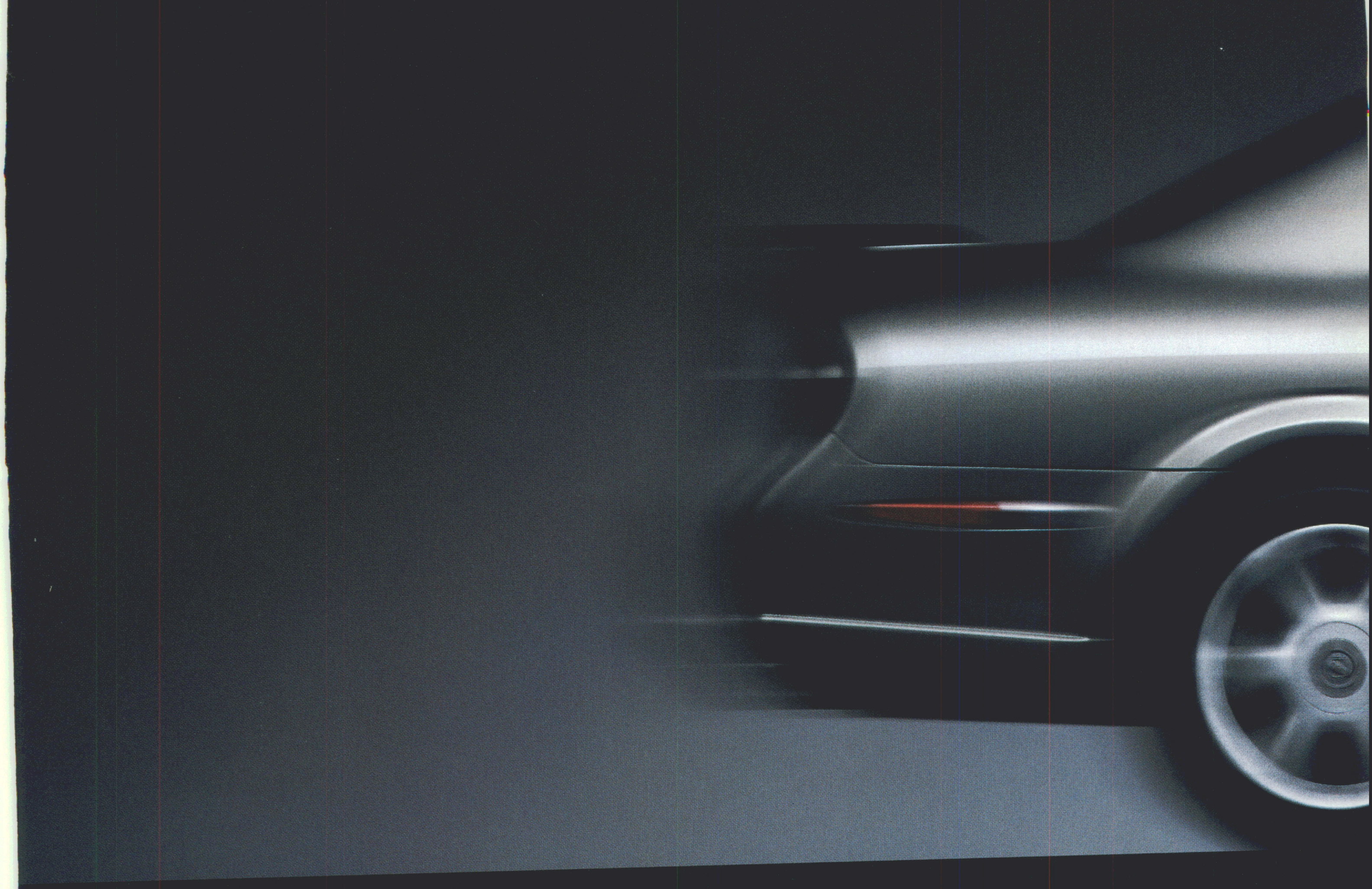

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NEVER MIND ITS SAVAGE REPUTATION. THE PIRANHA IS A PUSSYCAT—MOST OF THE TIME

BY RICHARD CONNIFF

ONE MORNING IN MY MIDLIFE CRISIS, WHEN I HAD considered and rejected the thrill-seeking possibilities of nude skydiving or drag racing on a mountain road, it occurred to me that it might be a good idea to go for a swim in a tankful of hungry piranhas, at feeding time. I made the necessary arrangements, and soon after I was standing in the dark in front of the piranha tank at the Dallas Aquarium, surrounded by 7-year-olds enthusiastically telling one another about how quickly piranhas can reduce a human being to bloody stew.

I had seen piranhas before. But the aquarium's animals were bigger than I expected, some nearly a foot in length, and there were 40 of them in an area not much larger than a hot tub. With their jaws thrust forward, they were pugnacious-looking creatures, like bulldogs in silver body stockings.

A curator led me to a changing room, and I put on a pair of bright-red bathing trunks, just to make sure the piranhas couldn't miss me. The curator had assured me that there was no real danger. Piranhas were the innocent victims of deep-seated human

In a Peruvian forest, a toothy *caribe*, or "cannibal," lurks among pads, waiting for something interesting to happen.

it's

only a piranha

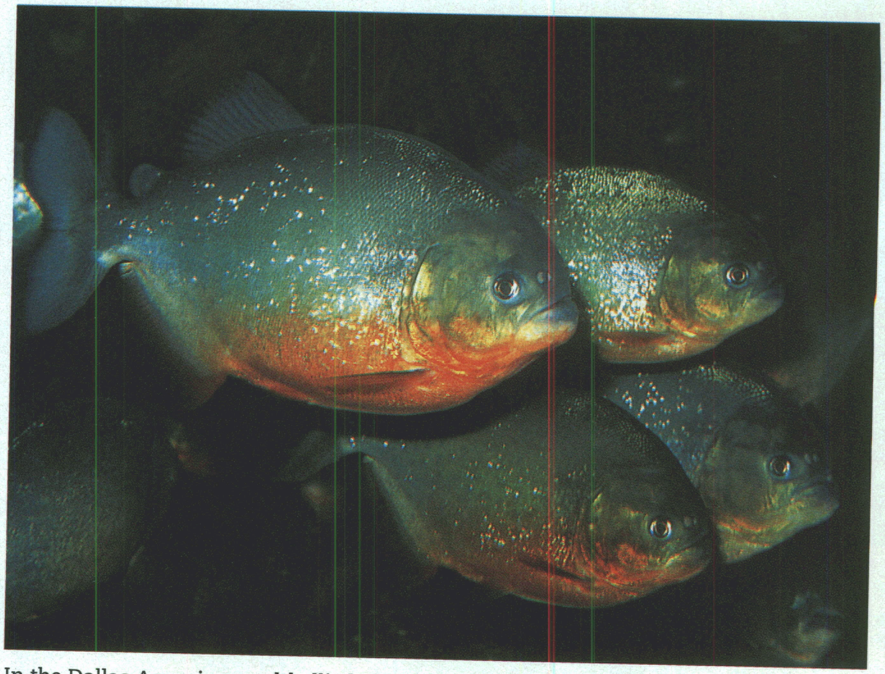
Piranhas, Roosevelt wrote, "are the most ferocious

paranoia about the natural world, and the purpose of my swim was to debunk those old fears.

I climbed up onto the rim of the tank, where a former curator and piranha buff named David Schleser was waiting to give me a primer. "It's not pir-anna, it's pir-*an*-yaa," he said. The name is taken from an Amazonian Tupi patois and means simply "toothed fish." The creature is also known in some parts of its range as *caribe*, loosely defined as "cannibal," or *capaburro*. Schleser waited till we were both about neck-deep in the piranha tank, and then he added, "It means donkey castrator."

Well, it was probably good to get this right out front at the start. There are at least two running themes in the mythology of the killer piranha. The first and more general theme is that swarming, blood-maddened hordes of these little fish will strip to the bone any creature dumb enough to wade into the South American lakes and rivers where they live. At least in the English-speaking world, the piranha owes its savage reputation largely to Teddy Roosevelt, bestriding the untamed planet in his knee boots and pith helmet. In 1913, after an unsuccessful attempt to reenter the White House, and in search of new worlds to conquer, Roosevelt undertook an expedition to Brazil. He wrote with gusto about "the devil of evil wild nature in the tropics," and he found the perfect incarnation of it in the piranha. Piranhas, he wrote, "are the most ferocious fish in the world. . . . They will snap a finger off a hand incautiously trailed in the water . . . they will rend and devour alive any wounded man or beast. . . . " He recounted a fellow traveler's tale of a man who went out riding on a mule—and the mule returned to camp alone. The man's companions found his skeleton in the water, "his clothes uninjured but every particle of flesh stripped from his bones."

The flesh-rending piranha thus entered the pantheon of the immortal villains, where it has remained on up through such dismal films as *Piranha II* (in which piranhas somehow get crossed with flying fish and fly through the air with bared fangs, saying *graak-graak-graak-graak*) and the recent computer game Tomb Raider III, in which the shapely heroine, Lara Croft, sometimes dies in a pool of seething piranhas.



In the Dallas Aquarium, red-bellied piranhas look and act like harmless panfish.

The second running theme in piranha mythology is castration. The earliest known account of piranhas, by the Portuguese explorer Gabriel Soares de Sousa from his 1587 expedition in Brazil, noted that the Indians feared them because "they attack the genitals and cut them off." Likewise an 18th-century American naturalist in Guyana reported that "the privities of men swimming in the rivers" were frequently amputated.

This is a big reputation to live up to, even for a very bad fish. That day at the Dallas Aquarium, Schleser told me that of the 40 or so known piranha species, only three, all of one genus, present any real danger.

"And these?" I asked.

"These are the dangerous ones," he said. They were the notorious red-bellied piranhas, genus *Pygocentrus*, and our toes had hardly touched the surface of the water when they fled to the far end of the tank and cowered. Our pasty white legs went unmaimed, and the 7-year-olds on the outside of the glass glumly moved on.

But what red-bellied piranhas will

DAVID M. SCHLESER/NATURE'S IMAGES; RANDALL HYMAN;
PP. 42, 43 ANDRÉ BÄRTSCHI

fish in the world . . . . They will rend and devour alive any wounded man."

In some Venezuelan rivers, frenzied feeders live up to their overblown reputation.

SEAN O'DRISCOLL/GREEN FILMS/OXFORD SCIENTIFIC FILMS

do in the confines of an aquarium isn't necessarily what they will do in the wild. With that cheering thought in mind, I departed one day last winter from Iquitos, Peru, on the *Esperanza*, a riverboat of the kind known locally as a *pamacari*. It had a cabin with bunks for eight, and it was equipped for a weeklong fish-collecting expedition led by Schleser. Our party consisted of the sort of people who could identify lunch not merely as catfish but as *Brachyplatystoma filamentosum*, and discuss whether a photograph in a reference book did justice to the local variety.

We were soon up to our waists and even our necks in the muddy Amazon and its tributaries, pulling seines and flailing dip nets. At the end of each haul, we knelt around the nets on the shore to inspect our glittering catch. "What have we got here?" Schleser said. "River dogs and raphiodons?" Many of the fish we caught had the evidence of piranha attack on their hindquarters—but not the sort of bloody stumps or open wounds you might expect. The damage consisted mainly of small divots the shape of toenail parings, which piranhas had neatly clipped out of the trailing edge of tail fins. "So we know they're in here," Schleser said.

In fact, the river seemed to have no shortage of threatening species. There was a catfish shaped like a miniature blue whale, known locally as the *carnero*, which can bore Swiss-cheese holes into fish trapped in nets or, on rare occasions, scoop melon-ball chunks out of people swimming. There were anacondas and electric eels. There was also a stingray up to five feet across, which can drive the poisonous barb on its tail into a person's leg. "Shuffle your feet on the bottom," Schleser advised. "They'll go away if you bump them."

Piranhas hardly seemed to worry anyone. In almost every village along the river, people knew someone who had been bitten by them, and in almost every village, small children leaped gleefully from the riverbank to swim. Piranhas only seemed to bite when they were flopping around in the bottom of a fishing canoe. "A mouse will bite, too, if you pick it up by the tail," Schleser said.

One day, we stopped on the bank of the Río Napo, a tributary of the Amazon, and threw out a couple of fishing lines baited with liver. Red-bellied piranhas soon started biting. They didn't swarm. They didn't make the water boil. They behaved, in fact, like any other fish, tugging at the line, stealing bait and sometimes

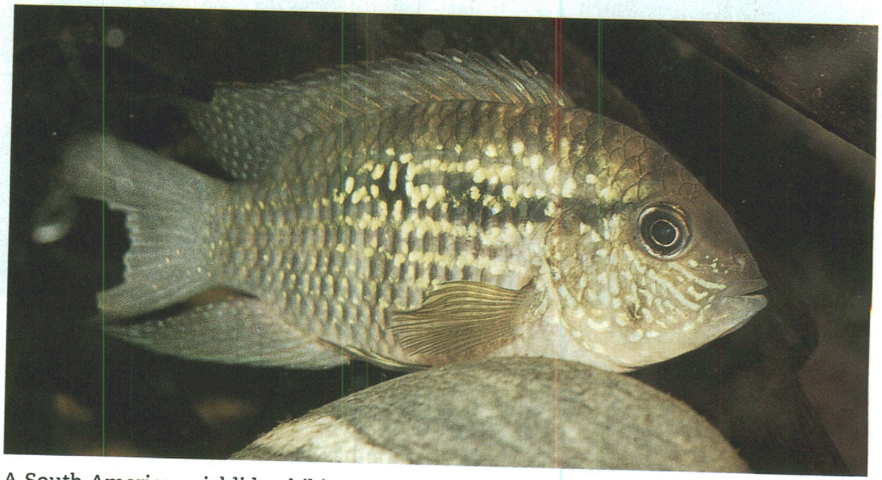
Most piranhas

getting caught. We kept some for lunch and released a few others, keeping our fingers clear of their toothy, eager mouths. It was getting toward midday and the equatorial sun was blazing down. We let another piranha go, and on a whim I waded into the river after it to cool off.

"We're chumming piranhas with raw meat and you're going swimming?" one skeptical member of the party inquired. He was standing on a log across a little inlet. A moment later, the log gave way and he sank straight down into the water, as if he were riding an elevator and the piranhas down in the lobby had just pushed the call button. He was still alive when he came back to the surface, merely a little refreshed. The rest of the party soon joined us in the river, passing around soap and shampoo, and no one was skeletonized, except the piranhas themselves, which we sautéed for lunch.

The truth seemed to be that we eat piranhas far more often than they eat us. But it is also true that they will sometimes return the favor. In a paper titled "Scavenging on human corpses as a source for stories about man-eating piranhas," Brazilian researcher Ivan Sazima and a colleague tracked down two drownings and one heart-attack death in the waters of the Pantanal region of western Brazil. One body was recovered after four days and was almost completely skeletonized (an important word in the piranha argot), another came out after 20 hours with the appendages but not the torso reduced to bone, and the third came out after just a few hours, having suffered what amounted to a severe complexion problem. Red-bellied piranhas were the main scavengers in all three cases, according to Sazima. He suggested that cases of postmortem scavenging like those probably gave rise to the idea that piranhas will attack and kill humans swimming in infested waters. But Sazima could not locate a single authenticated case in which a fatal attack had actually occurred.

So what are the piranhas eating, if not us? To find out, Sazima and his colleagues spent more than 300 hours snorkeling in the clear-water ponds and creeks of the Pantanal, observing the behavior of the fish in their natural setting. The evidence was that most piranhas, like most men, lead lives of quiet desperation. Instead of swarming over their victims in a tumult of flashing teeth, the piranhas mostly lurked and stalked and even disguised themselves as other species to snatch their food on the sly. They tended to bite their victims on the tail, then run away. Only one of the three kinds of piranhas observed by Sazima's team was a genuine killer: the red-bellied. Though they traveled in groups of 20 or 30 fish, even those piranhas tended to be furtive. They often hunted by hiding in the vegetation and dashing out to blindside small fish, which they swallowed in a bite or two.



A South American cichlid exhibits evidence on its tail that it was nipped by a piranha.

The other piranhas in Sazima's study fed mainly on scales and fins, not meat. In the 1970s, a researcher who was still attached to the fierce image of the piranha conjectured that attacking the tail fin was the equivalent of wolves severing the hamstring of a deer, to cripple the prey for an easier kill. But the terrible truth, according to Sazima and other researchers, is that most piranhas seldom actually proceed to the kill. A piece of tail fin, or a section of scales raked off like shingles, is all they're really after.

Leo Nico, a scientist at the U.S. Geological Survey's biological research station in Florida, writes that fish scales and fins can be anywhere from 34 percent to 85 percent protein. They may also provide vital nutrients in the calcium- and phosphorus-poor blackwater rivers of South America. "Why take fins or scales when whole fish are more nutritious?" Nico asks. The answer appears to be that it's easier to

DAVID M. SCHLESER/NATURE'S IMAGES; LEO G. NICO

seldom proceed to the kill. A piece of tail fin or a section of scales is all they're really after.

steal a mouthful of scales or fins than to kill a whole fish. Moreover, both scales and fins grow back in a few weeks. They are a renewable resource. Thus, Nico writes, "piranhas resemble herbivores that continually exploit their food source without eliminating it." Think of cows cropping grass in a pasture.

Or rather, think of frightened cows. In Sazima's study, one fin-eating piranha species preferred to sneak up on its victims from behind and below. Then it would strike at the tail or anal fin, clipping off a piece with an audible snap and twisting its body to tear it away. The young of another piranha species sometimes joined schools of similar-looking cichlids and lollygagged along pretending to be just one of the gang. Every now and then, they'd snap a bite out of the tail fins of the real cichlids, then swim along again looking innocent.

In Peru, young caimans like this one frequently turn up missing parts of legs and tails.

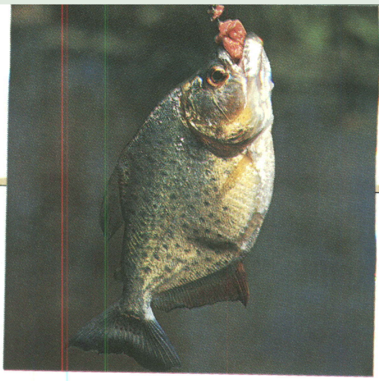
ANDRÉ BÄRTSCHI

This sort of sneaky behavior is the reason the tail fins of fish in piranha habitat commonly exhibit what one researcher calls "small lunate regions of loss," a lovely phrase that might describe the human heart in middle life. And not too surprisingly, the fish do not much like it. Losing chunks out of their tail fins can affect their swimming ability, and thus their feeding and mating success. In Sazima's study, many prey fish seemed to know exactly what the piranhas were up to. When piranhas approached, one group of cichlids circled their wagons, forming a ring with their tails toward the center, and then moved together to the shelter of vegetation.

Other species defend themselves ferociously. Kirk Winemiller, an ichthyologist at Texas A&M University, describes "the pointed conical teeth and highly protrusible jaw apparatus" of one cichlid, and its knack for turning on the piranhas with its mouth open. This, apparently, can be sufficient to send the timid piranhas bolting for shelter. The piranhas adapt by trying to catch their prey unawares, attacking when they are distracted by feeding, fighting or courting. In Winemiller's study, the piranhas preferred to feed on a slow-swimming cichlid species that noses around aquatic plants picking off minute invertebrates. This feeding behavior frequently leaves the cichlid in the ludicrous position of having its face buried in floating vegetation and its hind end hanging out in the water below, like a neon sign saying, "Bite here." But this cichlid, Winemiller argues, has evolved eyespots on its tail, which also has the same scale structure and coloration as its head. It's like a neon sign saying, "I might bite back." The resulting "startle effect" may be enough, Winemiller writes, to confuse a piranha rushing in for a sneak attack.

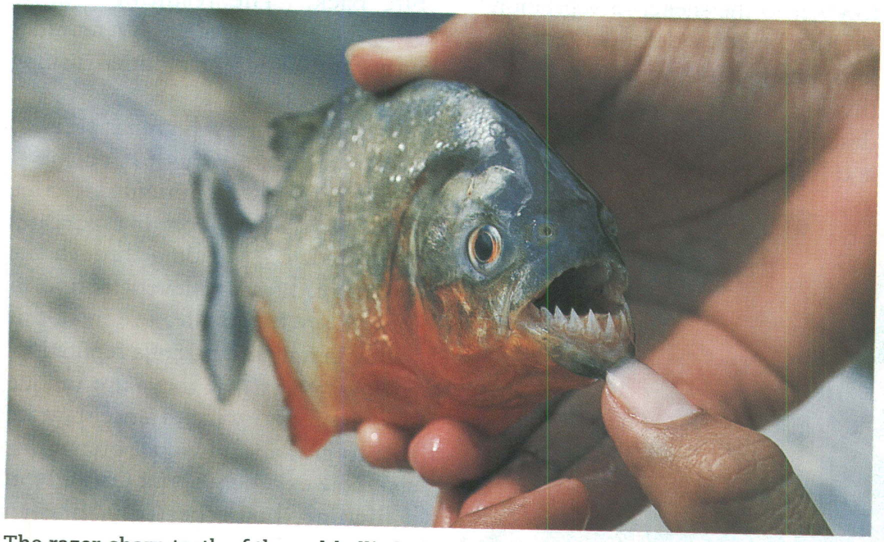
Because so many piranhas seem to prefer scales and fins to red meat, researchers now commonly describe them as behaving more like parasites than predators. Reading through the literature, I was relieved to find at least one redeeming feature in all this for the piranha's ferocious reputation. Sazima writes that they "are unique among predatory fishes since they are able to give an individual prey a disagreeable experience" not just once in a lifetime, but repeatedly, like an overbearing boss, or a nagging spouse. But Sazima also watched one piranha species approach another and politely pick the fish lice from its flanks, taking nothing else. Piranha feeding behavior may have started with this sort of social grooming, according to one theory, and evolved first to fin- and scale-nipping and then to actual rending of flesh. Even today, a few piranha species survive that do not tend to eat scales or fins, much less flesh. They feed mainly on seeds, nuts, fruits and even flowers. This is an image for our time: the New Age piranha. The piranha as crypto-vegan.

But the object of my journey wasn't to turn the piranha into a petting-zoo



animal. I was still yearning for some Rooseveltian sense that it is indeed a jungle out there, not just a rain forest. I was still hoping to discover some remnant of "the devil of evil wild nature." Venezuela sounded promising.

Los llanos—literally "the plains"—is a region of flat grassland and dry forest in the interior of the country, veined and capillaried with hundreds of little streams running down from the Andes Mountains to the Río Apure, and thence to the Orinoco. In the rainy season, the rivers flood the land, and when the water subsides, it leaves ponds and lakes almost everywhere. The llanos is cowboy country now, so the watering holes tend to be fringed with cream-colored Brahman cattle and sometimes water buffalo. They're also fringed with some of the most spectacular concentrations of waterbirds in the Western Hemisphere. One day at sunset, as I made the long drive to the town of San Fernando de Apure, on the Río Apure, I saw 50 or so white egrets roosting together in a tree beside one such pond, covering it like Christmas ornaments. An ibis flew past, red as a rose, and joined a dozen others just like it standing around in a gaggle. The birds thrive on fish that get left behind in every lagoon and watering hole, red-bellied piranhas almost always among them. The concentration of the fish, and the intensity of feeding by both birds and piranhas, increase as the watering holes dwindle in the dry season. Under these circumstances, I'd been told, piranhas sometimes act like piranhas.



The razor-sharp teeth of the red-bellied piranha can—and do—wreak serious damage.

On the road that day, an odd little scheme came to mind. It had to do with the two dead iguanas I passed, and the boa carcass as thick as my thigh. I stopped at a sort of general store to buy some rope. After a while, I was able to get across the idea that I wanted to pick up a dead animal, tie its stinking corpse to the hood of my little Fiat, drive it a couple hundred kilometers, then fling it into a river full of piranhas and see just how long it really took them to eat it. The shopkeeper declined to sell me any rope.

I arrived in San Fernando de Apure the next morning with only my own sorry carcass—and the name of a contact at Venezuela's national fisheries agency. The contact was apparently accustomed to northern visitors with odd ideas about his continent. He politely ignored my assertion that I knew the location of a dead dog in the neighborhood (I think it was dead, anyway) and set me up with a capable biological technician named Orlando Camacaro. Camacaro and I quickly worked out a protocol for sampling local piranha populations. Then we went out and stocked an ice cooler with fresh beef shank, bone-in. I suggested that a couple of chickens might also be a good idea.

Soon, we set off in search of piranhas. Our first stop was a backwater of the Río Apure, where two fishermen were gutting their catch at a roadside stand. They were mostly selling catfish, but they also had stacks of piranhas. Down by the river, Camacaro tied a chunk of beef on a line. The plan was to put it in the water for a minute and see if we got any reaction. He tossed the meat five feet from shore and I asked, "What time is it?" But before I could get out the words, Camacaro had already jerked the line back to shore with a half-dozen piranhas attached. They landed at my feet, their orange bellies glistening, their tails frantically slapping. They flipped and wriggled their way back down to the water. They were small fish, just three or four inches long, but I was impressed.

Then one of the fishermen threw in a dead fish for our amusement, and the water seemed to explode before us. As the carcass rolled over

RICHARD PACKWOOD/OXFORD SCIENTIFIC FILMS; MARTHA COOPER/PETER ARNOLD

Camacaro had already jerked the line back to shore with a half-dozen piranhas attached.

and over, piranhas with their teeth sunk in its flanks did somersaults. Sometimes a piranha shot across the surface with a sound like a whip lashing through the air. The secret of this extraordinary display, said Camacaro, was that the fishermen constantly toss fish guts into the water here, keeping unnatural concentrations of piranhas in the area more or less permanently.

I noticed that a couple of cormorants were swimming in the same water, just a hundred yards away. But even at that short distance from the constant chumming of fish guts, the natural order seemed to be restored. One of the birds vanished beneath the surface—and came up after a moment with a gold flash of piranha held crosswise in its bill. It mouthed its catch for a while, turning it as if for a better position. Then in a smooth, well-practiced move, it flipped the piranha around and swallowed it whole, headfirst. I watched for a minute to see if the piranha, with its ferocious teeth, was going to come rotoring right out the cormorant's other end, like some sort of tunnel drill. But the bird took off and flew away, apparently content.

It went like this for much of the rest of the day, as Camacaro and I traveled from one watering hole to another. Often, we got no response to our bait, or the piranhas merely picked at it, idly. A few times they hit the meat immediately and sent back only the polished bone. But these occasional displays of ferocity seemed to be a product mainly of unusual circumstances.

We stopped, for instance, at a ranch named Hato La Guanota, which keeps 4,000 water buffalo on pastures that are sometimes flooded by the Río Apure. The manager, Hector Scannone, explained that water buffalo, being thick-skinned and sensitive to heat, like to spend much of the day wallowing in water holes. This is just too tempting for the piranhas to resist. They dart in and bite the teats off the udders of the heifers and the testicles off the bulls. This puts a crimp in Scannone's business of making mozzarella cheese. When the ranch first started grazing water buffalo in the 1970s, Scannone said, 80 percent of the herd suffered piranha damage. Now, he simply drains the ponds temporarily and removes the fish when the piranha population becomes too large. He still has to get rid of about 30 damaged animals a year. But like the fish-gutting areas, this was a man-made opportunity for the piranhas.

I came across just two natural circumstances in which piranhas display their stereotypical swarming behavior: in ponds that have dwindled to the point of starvation, and in the waters beneath bird rookeries. The huge waterfowl populations of the llanos tend to nest in trees over the water, according to Don Taphorn, an ichthyologist at one of Venezuela's national universities. When the birds bring back food to regurgitate for their young, it invariably gets spilled into the water, along with their droppings. "This chums in the piranhas because it's free lunch, breakfast and dinner," Taphorn informed me. "So the rookeries are packed solid with piranhas just waiting for something to fall." Taphorn, who has spent much of his career neck-deep in the waterways of the llanos pulling fishnets without ever being bitten, once saw an anhinga fledgling fall into the water at a rookery. "He was trying to get back to the tree and the piranhas wouldn't let him," Taphorn said. "You could see all this boiling water, and at the same time, the caimans

A Peruvian fisherman displays his injured finger—and one of the usual suspects.

ANDRÉ BÁRTSCHI

The fishermen were selling catfish but also stacks of piranhas.

were coming off the shore. It was like something out of a Tarzan movie. But it doesn't happen often."

Camacaro and I were too late in the season for the bird rookeries. But just about the time I was giving up on the idea of piranhas attacking much of anything other than fish tails, we arrived at the fishing village of Boquerones. We turned off the road at a bridge and went down a steep bank of dust as fine as powder. There was a wide, ramshackle concrete stairway under the bridge, down to the water's edge. The local fishermen land their long metal riverboats here, and they also inadvertently chum the water with fish guts, attracting a large piranha population. We decided to try out a chicken carcass, as a fisherman sat nearby patiently mending his nets. The piranhas hit the carcass the instant it touched the water. After one minute and 20 seconds, they'd eaten everything except the spine and leg bones. At two minutes, the water was quiet again, and there was nothing left but three wing feathers drifting on the surface. The fisherman never even looked up.

By now, it was pretty clear to me how the mythology of the piranha had evolved. The locals, whether they were Amazonian tribesmen or early settlers, have always had places where they gutted their fish. And they have always been blasé about the piranhas that assembled there, much as people in New England, where I live, are blasé about the ferocity of bluefish. But an explorer passing through could hardly help being impressed. And it would have been entirely natural for an outsider to attribute the feeding behavior at these hot spots to all piranhas, and to all South American waterways. All it needed for the piranha to become legend was the occasional nasty accident . . .

Camacaro and I went over to the little blue grocery on the riverbank, where the owner sat in the darkened interior and handed out her merchandise through a metal grate. Her name was Yelitza. Camacaro chatted with her as he sipped a soda, and it came out after a while that, just a month earlier, an accident had happened at the foot of the stairs. Her 6-year-old, Edouardo, and her 11-year-old, Carolina, had been playing on the stairway. Edouardo, who cannot swim, tripped and tumbled into the water, and Carolina went in after him. The piranhas attacked them immediately. A boy on shore had gone in to rescue them both and they pulled one another out in a chain. No one died.

But the two children had just spent three weeks in the hospital, and Yelitza showed us their injuries. Edouardo, who'd been wearing blue jeans the day of the accident, had a long scar across the back of his right calf. Carolina had been wearing shorts, and the piranhas had opened long half-inch-wide wounds across the tops of both of her thighs. Then, one piranha biting in the same place as another, they frantically deepened the wounds. Carolina had been bitten almost to the bone on one leg and to within a centimeter of her femoral artery on the other, all within a matter of seconds.

What had happened to Edouardo and Carolina was of course a rare accident. Intellectually, I knew that we humans do not loom nearly as large in piranha psychology as piranhas do in ours. They'd rather be off nipping some poor cichlid on the tail.

And yet the accident at Boquerones had a way of sticking in the mind. Several days went by before I ventured back into the water. As I did so, I reminded myself that it was irrational to demonize animals. I resolved that I would swim in other piranha-infested South American rivers in the future. But you will probably understand when I add that there is no way on earth I will ever skinny-dip there. ♜

A husky caiman in Venezuelan waters clenches a red-bellied piranha in its jaws.

Mr. Conniff lives in Connecticut. His latest book is Every Creeping Thing: True Tales of Faintly Repulsive Wildlife (Henry Holt).

ANDRÉ BÄRTSCHI; TONY ALLEN/GREEN FILMS/OXFORD SCIENTIFIC FILMS

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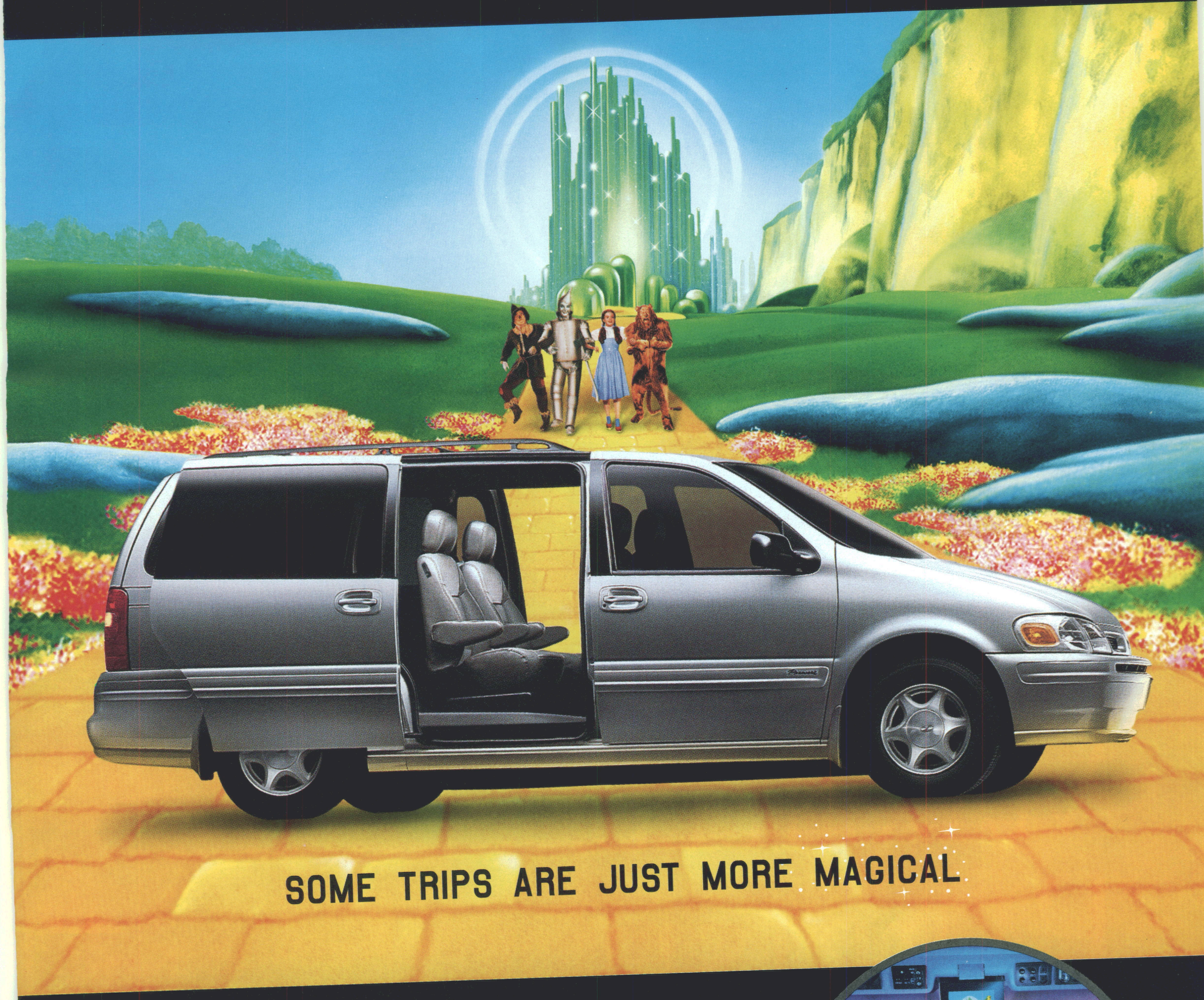
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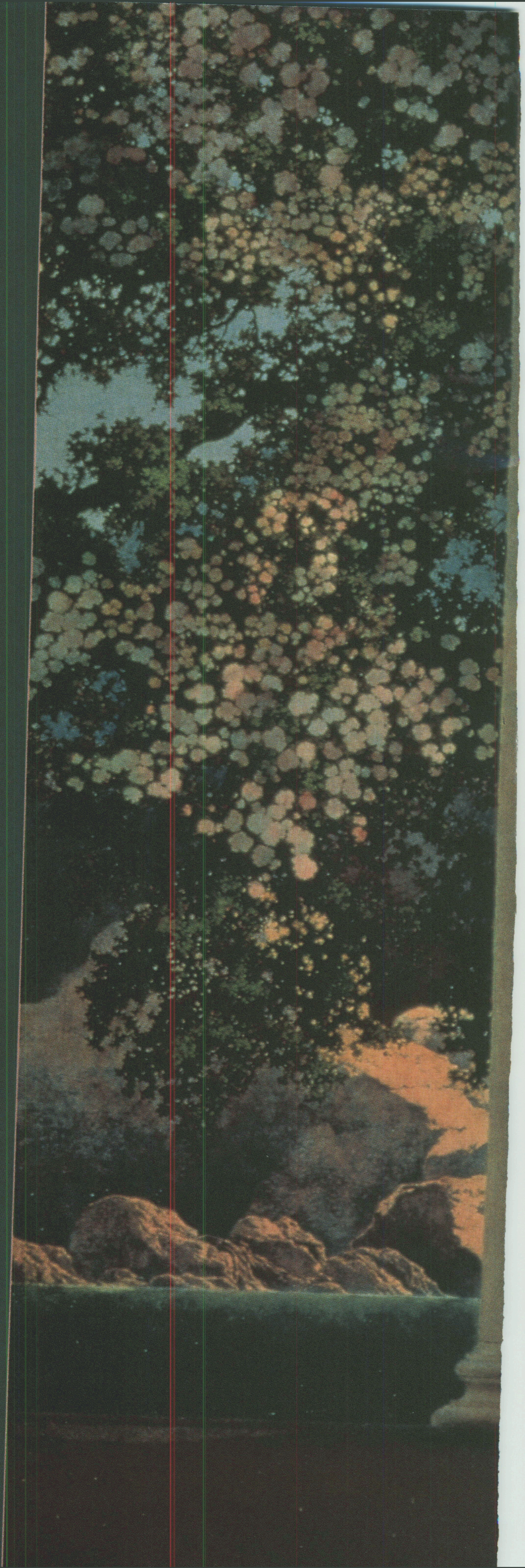
BEYOND THE BLUE

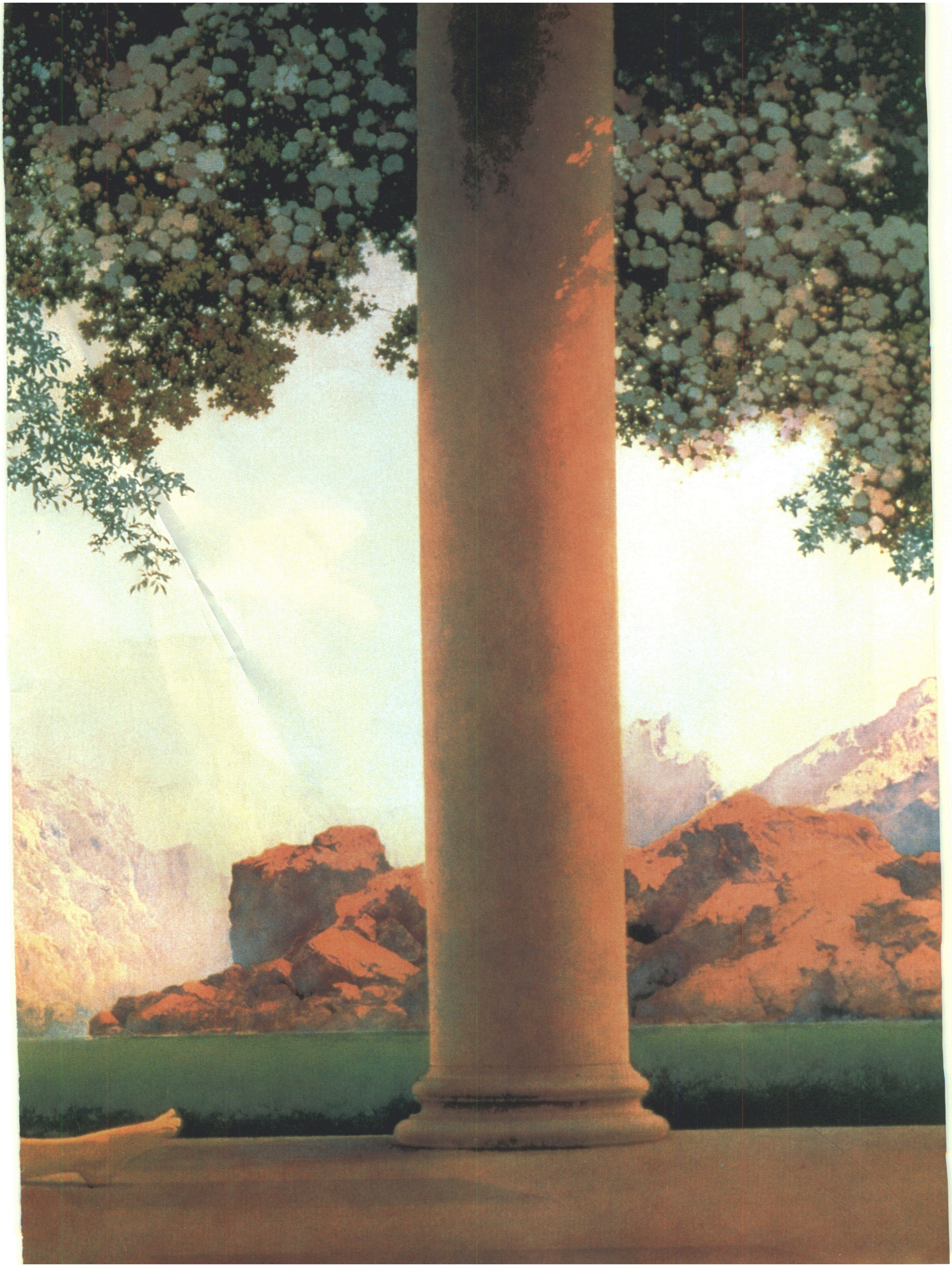
BY BRUCE WATSON

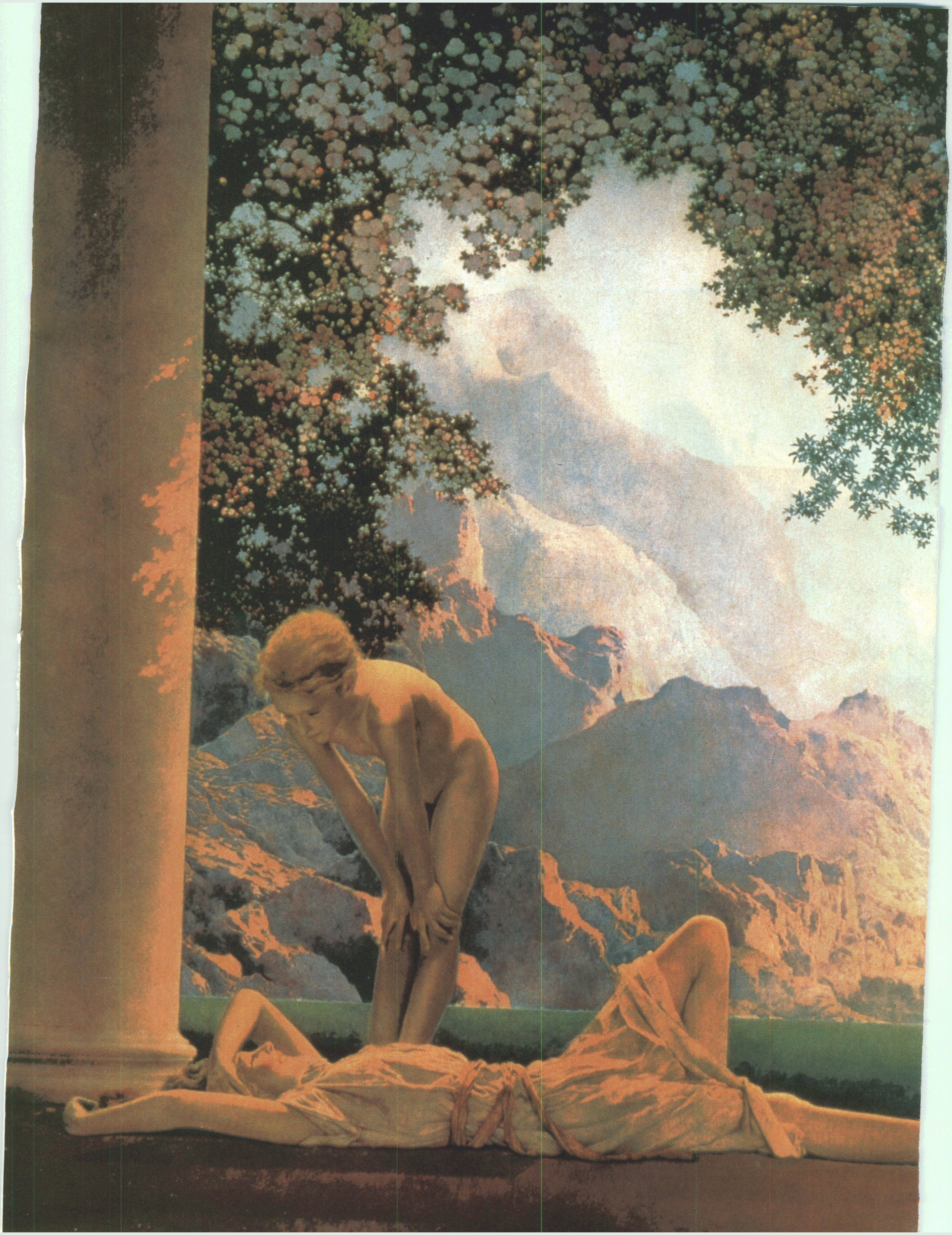
THE ART OF MAXFIELD PARRISH

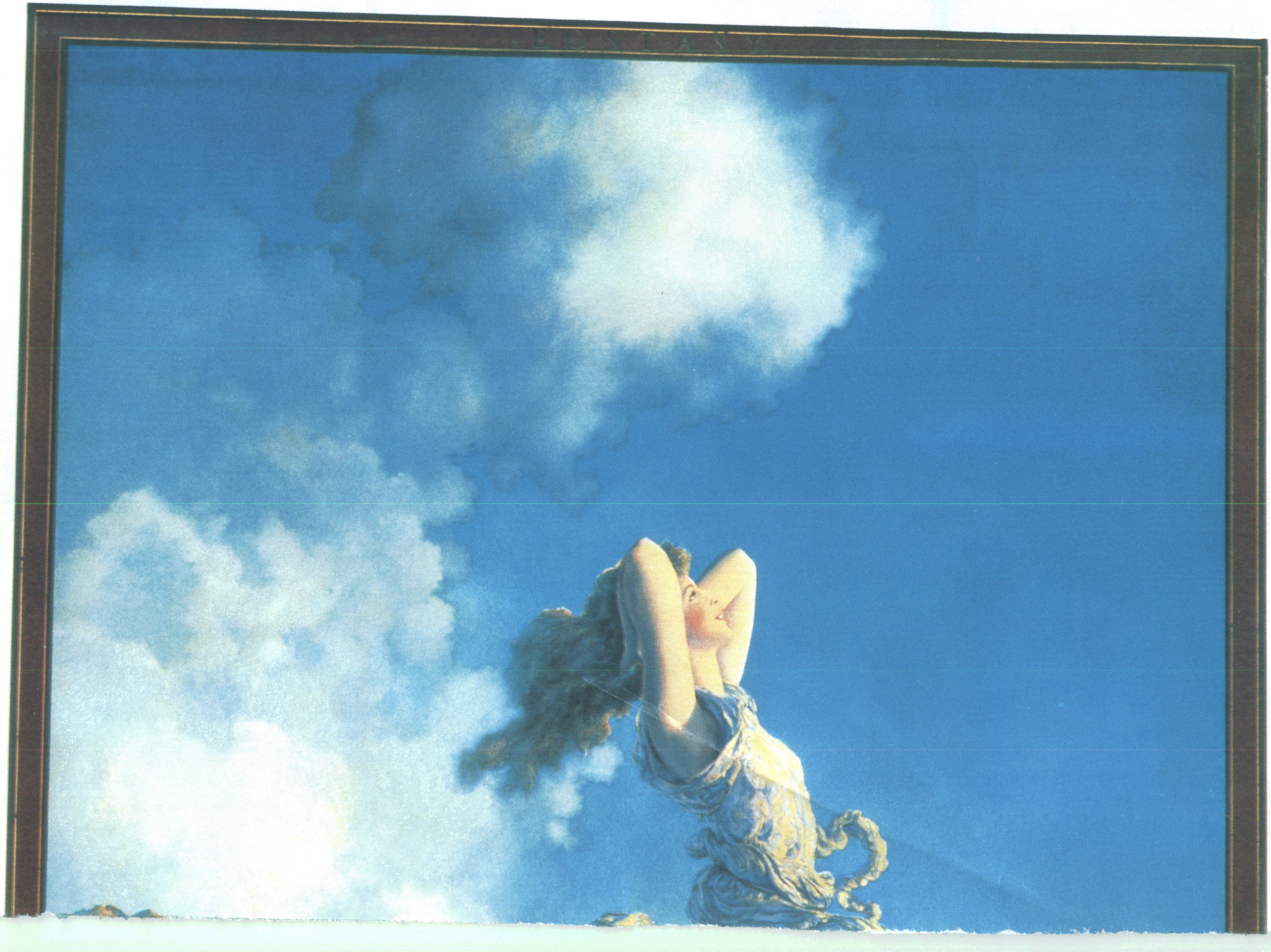
A MASTER OF MAKE-BELIEVE, HE ENCHANTED MILLIONS WITH HIS OWN VISION OF PARADISE



Painted specifically for reproduction as an "art print," *Daybreak* (1922) became a decorating sensation and a 1920s pop icon.



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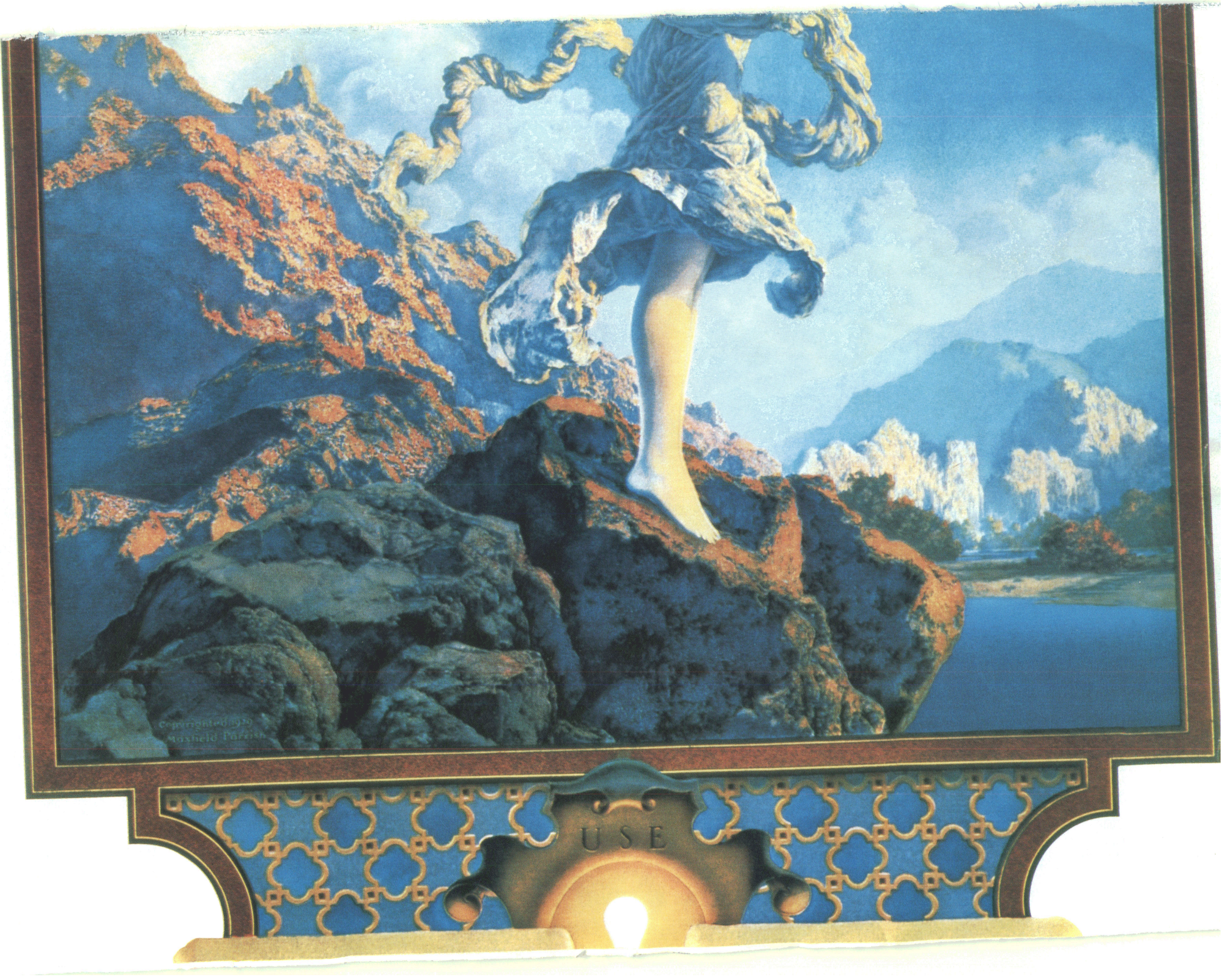
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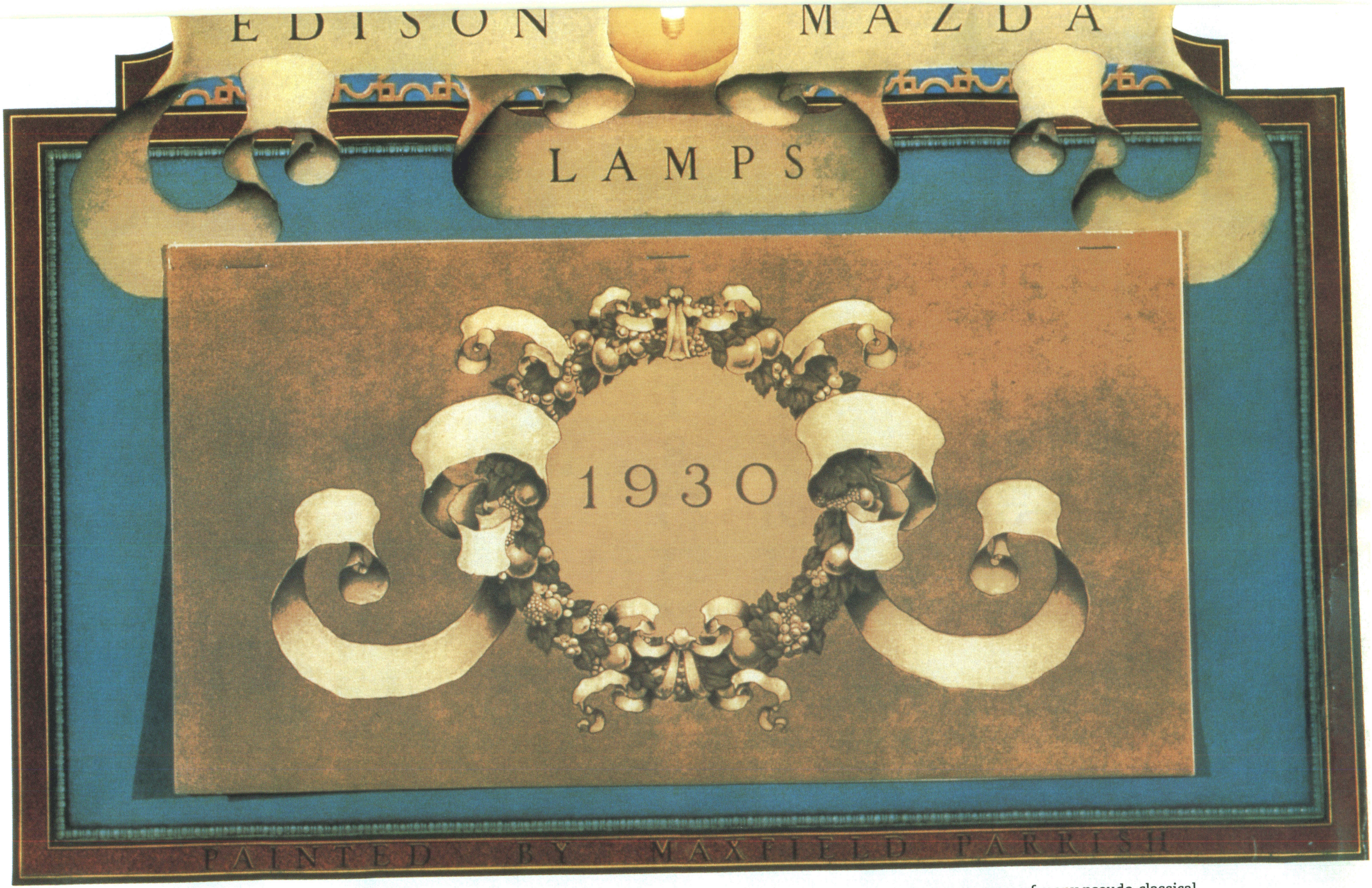
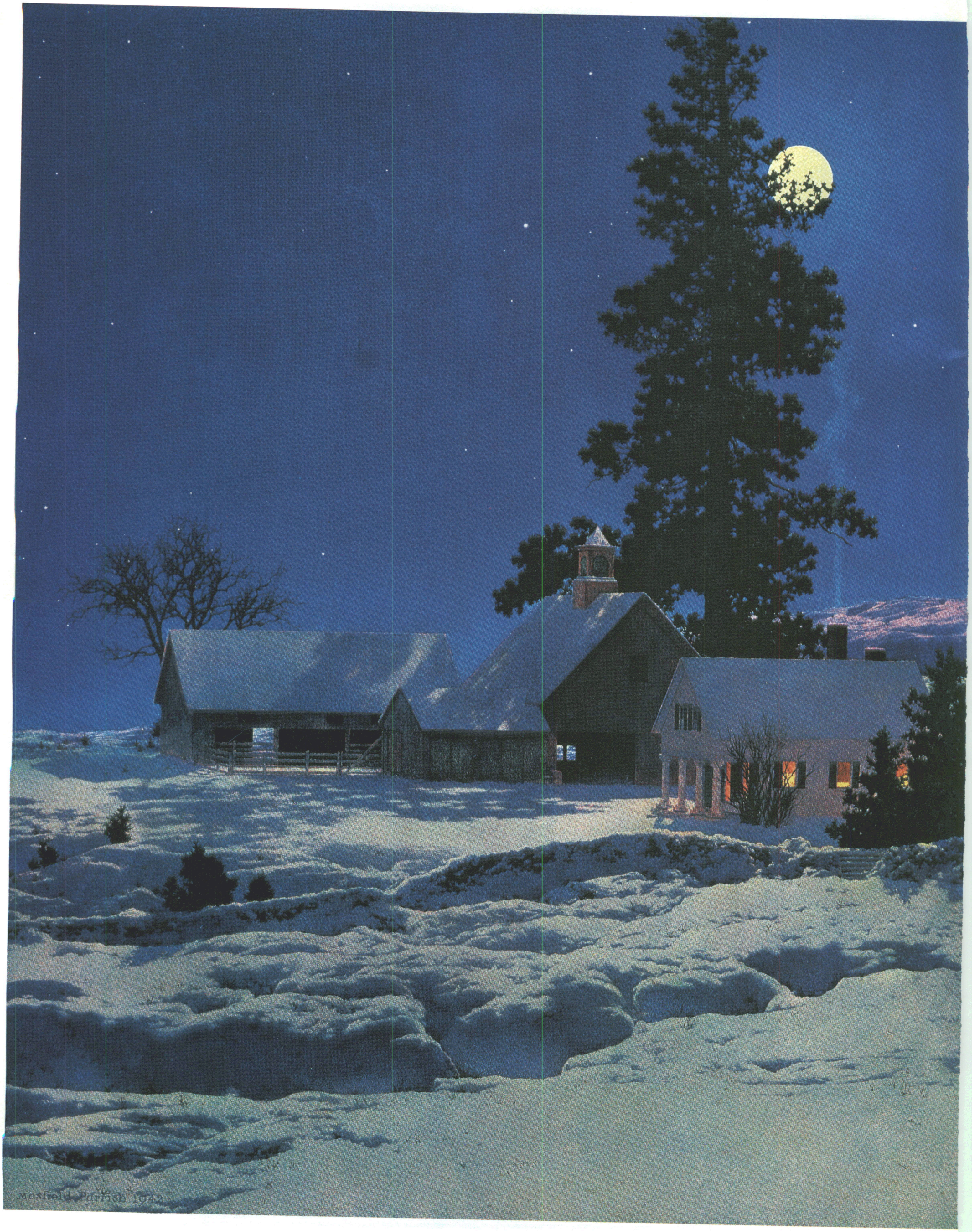
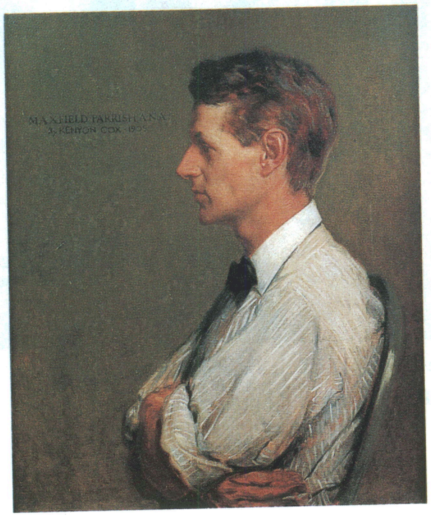
Maxfield Parrish
USE


EDISON MAZDA
LAMPS
1930
PAINTED BY MAXFIELD PARRISH

Ecstasy was one of many pseudo-classical "girls on rocks" images Parrish turned out for General Electric calendars, 1918-34.


Maxfield Parrish 1942

IN LATE AFTERNOON ON ICY WINTER DAYS, AN UNEARTHLY blue appears over Mount Ascutney overlooking the Connecticut River Valley in Vermont. The blue is deeper than any ocean, airier than any cloud. Suggestive of an infinite twilight, it seems to offer a window into some private Arcadia beyond the horizon. This cobalt color, though often captured on one artist's canvases, is rarely seen in museums. Instead, for more than 80 years, it has graced prints and calendars in living rooms, dens and especially college dorms.



Fellow artist and neighbor Kenyon Cox painted this portrait of Parrish in 1905.

"Oh, they're a-hanging Maxfield Parrish in the village," rang a witty campus ballad in the 1920s. And in prints hung on dorm walls across America, that "certain blue" framed lone women perched on rocks and draped in diaphanous gowns. Between the world wars, Maxfield Parrish was the common man's Rembrandt. When a Parrish print was placed in a department store window, crowds gathered to admire it. Hotels hung his dreamscapes in their lobbies. Housewives bought his calendars, viewed them for a year, then cut off the dates and framed the pictures. In a hustling world where skies were too often gray and gardens no bigger than a Brooklyn backyard, Parrish painted the stuff dreams are made of. His trademarks were lush gardens, ecstatic women and his famous "Parrish blue," the color skies must surely be in any Eden worth the name. At the height of his career, critics denounced his "sentimental gushings," but a Parrish print hung in one out of every four American homes.

A generation after his death, Maxfield Parrish remains one of America's best-known and least-known artists. Though his utopias still adorn calendars and posters, few people have ever seen his paintings in person. Yet the Pennsylvania Academy of the Fine Arts in Philadelphia is currently offering a major Parrish retrospective. Going beyond the blue, the show features more than 170 works from Parrish's 68-year career. Viewers who know him only for his "girls on rocks" will be startled by the imagination, virtuosity and sheer delight of his designs. The exhibition includes his enchanting children's illustrations and magazine covers, his ambitious murals, his machine-tooled maquettes and the lonely landscapes he painted into his 90s. After showing in Philadelphia through September 25, "Maxfield Parrish: 1870-1966" will travel to the Currier Gallery of Art in Manchester, New Hampshire, and then continue on to the University of Rochester's Memorial Art Gallery and the Brooklyn Museum of Art, in New York.

The luminous *Moonlight Night:Winter* (1942), conveys a sense of domestic serenity.

When he died in 1966 at age 95, Parrish was "in" again. Critics hailed him as a precursor of pop art. Pop prophet Andy Warhol collected his work. And as anyone who went to college in the 1960s recalls, they were a-hanging Maxfield Parrish in dorms once again. His originals now sell for six figures, and "Parrish blue" has become a cultural cliché. Yet like his paintings, layered in coats of varnish and glaze, Parrish remains hidden beneath a veneer. Only by stripping away his keen sense of privacy can we find the artist whose works invite us into his own personal paradise.

You don't look at a Maxfield Parrish; you look into it, feeling it beckon you to enter. But while his paintings say "Come in," his life is posted "Keep out." "There isn't any story here," he told publishers who begged him to do interviews. Too many "jumped at the conclusion," he said, "that because I painted pictures of a certain kind there must be something decidedly interesting about the artist: he must live in a tree, eat nuts and berries, or something. . . ." Parrish characterized himself as "hopelessly commonplace," and his career belies every myth about artists. His story contains no anguished searching, no struggle for acceptance. He made it all look easy. Gifted from childhood, he earned commissions even before finishing art school. From 1895 to 1961, when trembling hands forced him to stop painting, he never lacked a market. Yet the success that kept him busy also trapped his talent and drained his boyish enthusiasm.

Among the Parrishes, an old Philadelphia Quaker family, charm was part of the pedigree. In 1870, Parrish's father complained to friends about his 3-day-old son: "The princi-

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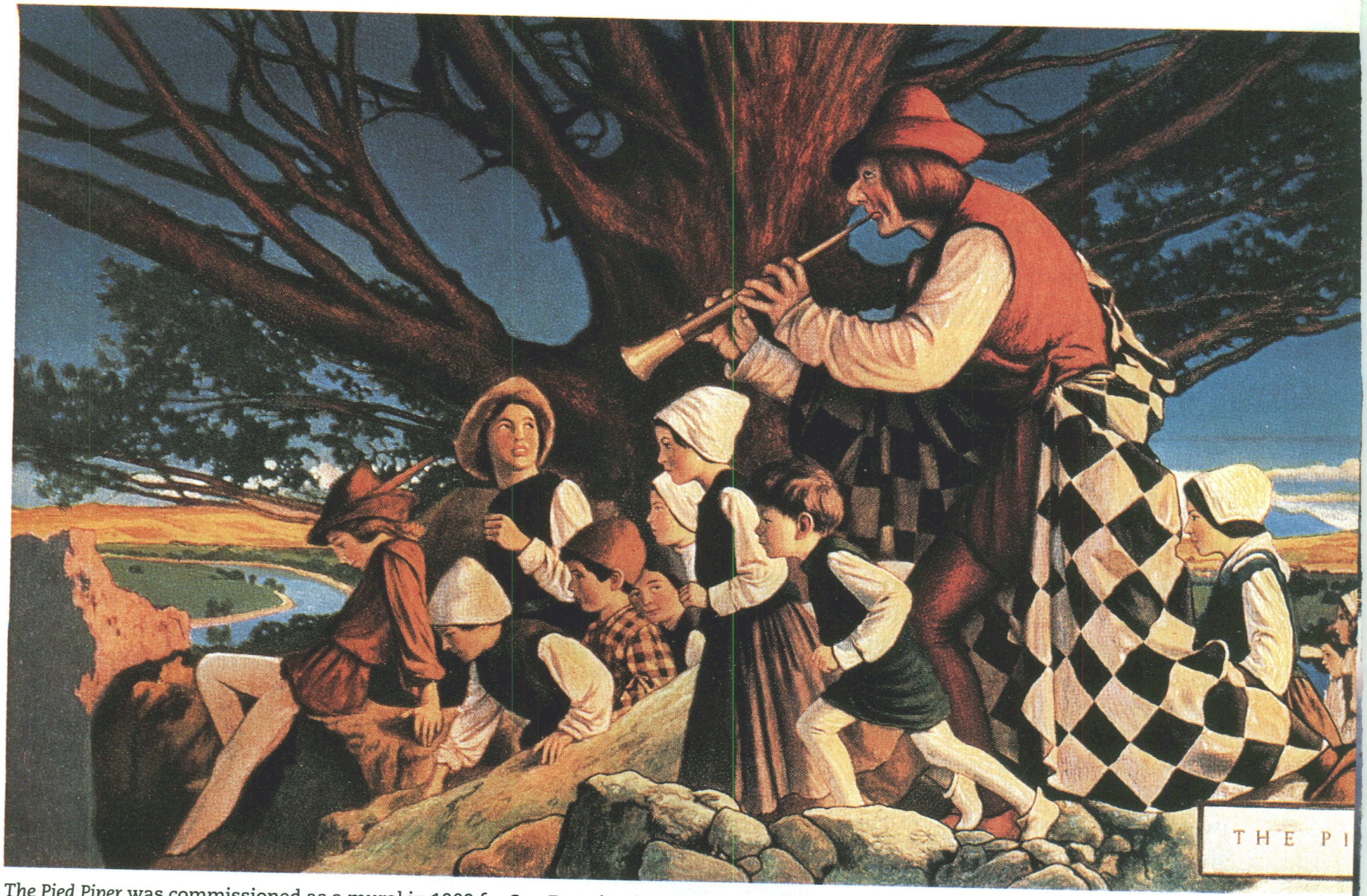

The Pied Piper was commissioned as a mural in 1909 for San Francisco's Palace Hotel and was later reproduced as a lithograph (above). Parrish himself appears here as the Piper.

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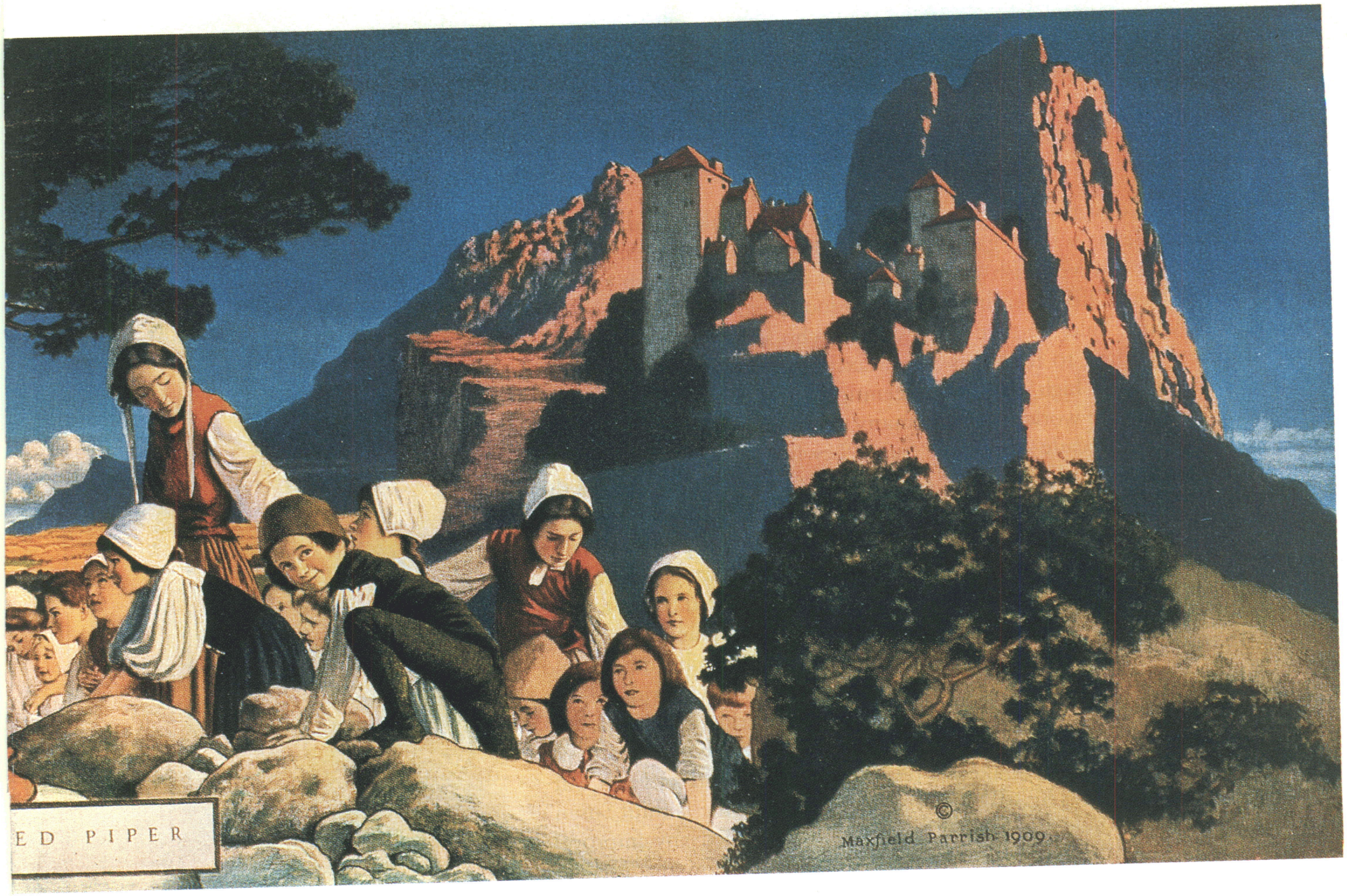
pal trouble just now is that he will not 'work for a living.'" Stephen Parrish, raised with strict Quaker taboos against graven images, had hidden his own talent by sketching in the attic. Determined his son would not suffer such shame, he gave the boy a sketchbook labeled "Fred Parrish—Christmas 1873." The father filled 50 pages with drawings of elfin creatures, delighting the son, who was soon making his own make-believe. But mere drawing was not enough for Fred, who would later take his grandmother's maiden name, Maxfield, as his middle and then his first name. His mother, Elizabeth, came from a family of machinists whose influence turned her son into a blend of artist and artisan. As a boy, Parrish drew dragons, then cut and pasted them into pictures. As an adult, he spent as much time as he could in his machine shop, building intricate models of the houses, barns, castles and pillars he captured in his paintings. Parrish often belittled himself as "a businessman with a brush," but his more accurate job description was "a mechanic who paints pictures."

When Parrish was 7, his father became the ideal artist's role model. Leaving his Philadelphia stationery store, the elder Parrish devoted all his time to art. His paintings and etchings were soon exhibited throughout the country, and the Parrishes went off to play in the fields of art. They spent two years in Europe—visiting many of its museums. Father and son roamed the New England coast, painting together. In 1888, Maxfield Parrish entered Pennsylvania's Haverford College, intending to study architecture. Yet his chemistry notebook, filled with coy clowns doodled beside formulas, showed his true colors. His own artistic chemistry—one part imagination, one part wit—led Parrish to the Pennsylvania Academy of the Fine Arts (PAFA). There he was hailed as "one of the most brilliant and most suggestive decorative painters in the country." He was all of 25.

To his mature sense of design, Parrish added a child's sense of play. While executing his first commission, wall paintings for the University of Pennsylvania's Mask and Wig Club, he wrote his father: "There is in it at times a wild fiendish delight which partakes of all sorts of *sensations*, of what is possible in art and in me and in everything." Parrish's designs for the project were soon displayed in New York, where a *Harper's* editor asked Parrish to do a cover. The 1895 Easter issue of *Harper's Bazar*, graced by two prim women holding lilies, introduced the nation to the man who would dominate the art of illustration in its golden age.

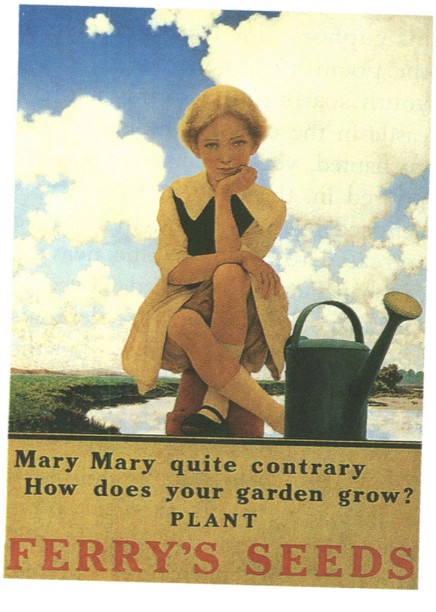


Today, critics are quick to distinguish two types of artistic talent. There are "artists," who follow their own muses, and there are "illustrators," who provide pictures for books and magazines. But from the 1870s to the 1910s, as magazines blossomed on newsstands, many whose paintings would later hang in museums began as illustrators. Winslow Homer drew for *Harper's Weekly*. Newspapers employed William Glackens and John Sloan, later founding members of the Ashcan School. The chosen few did children's books, among them Howard Pyle, N.C. Wyeth and Parrish.

If illustration was Parrish's vocation, his avocation was keeping the world at arm's length. Even when he married Lydia Austin, a fellow artist, in 1895, Parrish kept his distance. Mere days after the wedding, he left for Europe, alone. On his solo honeymoon, he wrote his new bride lengthy letters about the glorious Titians and Botticellis. After two months abroad, he came home to Philadelphia and began taking any work he could get. He did menu covers for restaurants, more covers for *Harper's* and ads for baking powder, bicycles and Wanamaker's department store. Yet whether advertising Cashmere Bouquet soap or drawing a knight whose No-To-Bac "Kills the Tobacco Habit," his inner mirth bubbled to his surfaces. A short, puckish man with piercing eyes—blue, of course—and a wild shock of hair, Parrish was as charming in person as in print. Quick with a quip, he was the delight of neighbors and children. Well into his 80s, he kept a twinkle in his spirit. Learning that his old letters were being sold, he noted, "I dare say they thought I was dead, and they may be right. I must look into that." The same impish humor abounds in his illustrations for children's books.

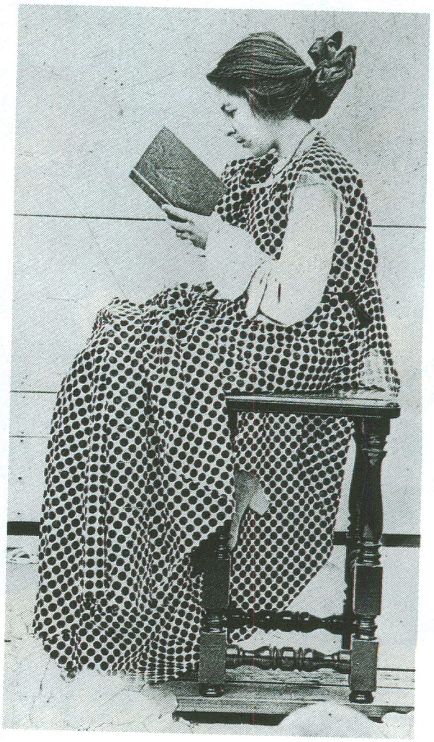
Cut from a child's coat of wonder, Parrish's medieval motifs brought Kenneth Grahame's *Dream Days* to life. His chimerical *Humpty Dumpty* enlivened *Mother Goose in Prose*, and his euphoric *The Dinkey-Bird*, from the poem by Eugene Field, sent a youth soaring on a swing before a castle in the clouds. The public was enchanted, yet as demands for more poured in, the child in Parrish was eclipsed by the hermit. In 1898, he retreated to his own blue heaven. Stephen Parrish, who had moved to Cornish, New Hampshire, lent his son $950 to purchase 20 acres in the area. On a hill across the valley from his father's home, looking out at Vermont's Mount Ascutney, Parrish built The Oaks. By the time he finished it in 1906, the estate boasted a 20-room main house, and a 15-room studio, complete with darkroom and machine shop. Parrish designed and built the terraced gardens, whose gates opened in summer to reveal lush spirea, lupine and lilac. Offered teaching posts at PAFA and Yale, he turned them down, unwilling to leave his hilltop home. From on high, he sent his celestial works to the world below.

During his first decade at The Oaks, Parrish was astonishingly versatile and widely praised. He did murals, shipping the painted panels to hotels in New York, Chicago and San Francisco. He illustrated *The Arabian Nights* and Nathaniel Hawthorne's *Tanglewood Tales*. His stunning landscapes accompanied *Italian Villas and Their Gardens* by Edith Wharton. He even found time to paint scenery for a Broadway production of Shakespeare's *The Tempest*. At The Oaks, Maxfield and Lydia Parrish enjoyed the state of the arts in Cornish's thriving artists' colony. Dinner guests included the sculptor Augustus Saint-Gaudens, Ethel Barrymore and, later, Woodrow Wilson. The community cultivated its homegrown talent, staging annual dramas with sets and masks by Maxfield Parrish. Homegrown children—three boys and a girl—soon brought their own imaginations to The Oaks. And in time, Parrish began to complement his works of inner fantasy with fantastical outdoor panoramas graced by the woman who served as his muse.



Parrish's daughter, Jean, posed for this nursery-rhyme ad for Ferry's Seeds.

Maxfield Parrish women often seem to be the same woman. In fact, many of them are. Her name was Susan Lewin, and when she came to The Oaks to help Lydia care for the children, she was 16. Slender and long-limbed, with a pre-Raphaelite profile, she quickly caught the artist's attention. Parrish asked Susan to pose for him. He rarely painted from life, instead photographing his models and working from his own prints. Soon, with Lydia wintering in Georgia, Parrish and his model began a discreet relationship that lasted 55 years. Parrish called Lewin "the faithful Susan" and they both denied any impropriety. "I'll have you know that Mr. Parrish has never seen my bare knee," Lewin is said to have protested. He must not have been looking, because a photograph of her posing nude has since been found. Lewin's room in The Oaks was connected to Parrish's by a secret passage, and in 1911, she and Parrish moved into his studio. Faithful Lydia stayed on in the main house. With Susan posing again and again, Parrish's dreamscapes matured. His work would soon be viewed by millions, yet few had the opportunity to appreciate the luminescence of an original Parrish firsthand.



"The faithful Susan" Lewin, Parrish's muse and model, often created her own costumes.

When approached to do the Parrish show, Sylvia Yount was a bit hesitant. As curator of collections at PAFA, she was familiar with the Parrishes in her museum, but knew his other works only from prints. "I was not a big fan of his later work," she told me. "But there's something about seeing a Parrish in person." To prove her point, Yount led me to a painting being prepared for the show. *Moonlight Night: Winter* (1942) was like no Parrish I'd ever seen. Its snow seemed to shimmer on the canvas. Its night sky was a chilling Parrish blue, a surreal indigo. Painstaking craftsmanship produced such hues, Yount explained. Like the lithographers who made his prints, Parrish layered his paintings color by color. After applying blue straight from the tube, he varnished the entire painting. When it dried, he added a second color, then another layer of varnish. Often working on several paintings at once, he added more color, more varnish, until the works seemed backlit. Parrish held few gallery shows during his lifetime. He is known for his prints, whose mass-produced color always disappointed him. Hence, the PAFA show will offer a surprising look at an artist some think they know well. "Many

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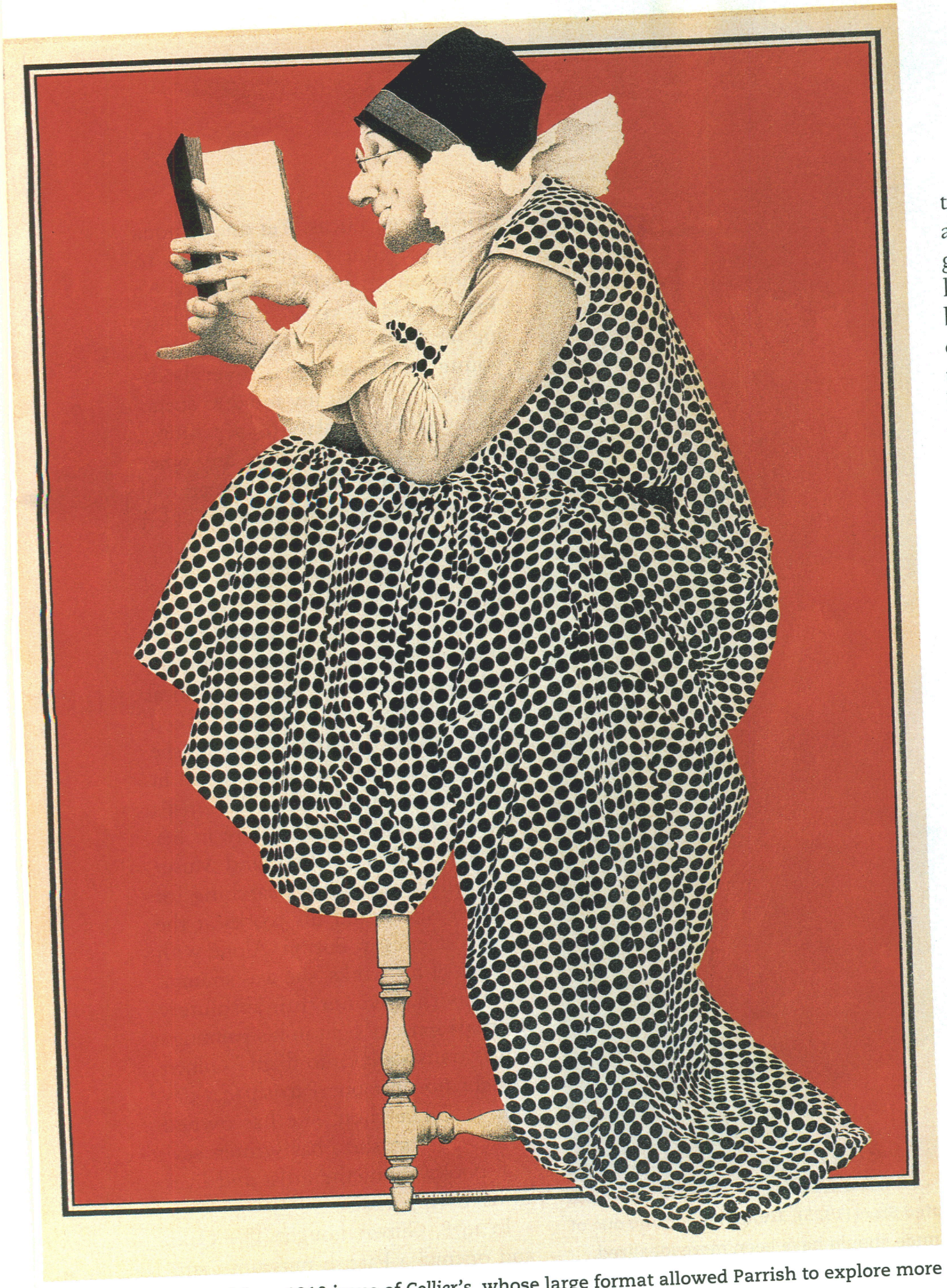


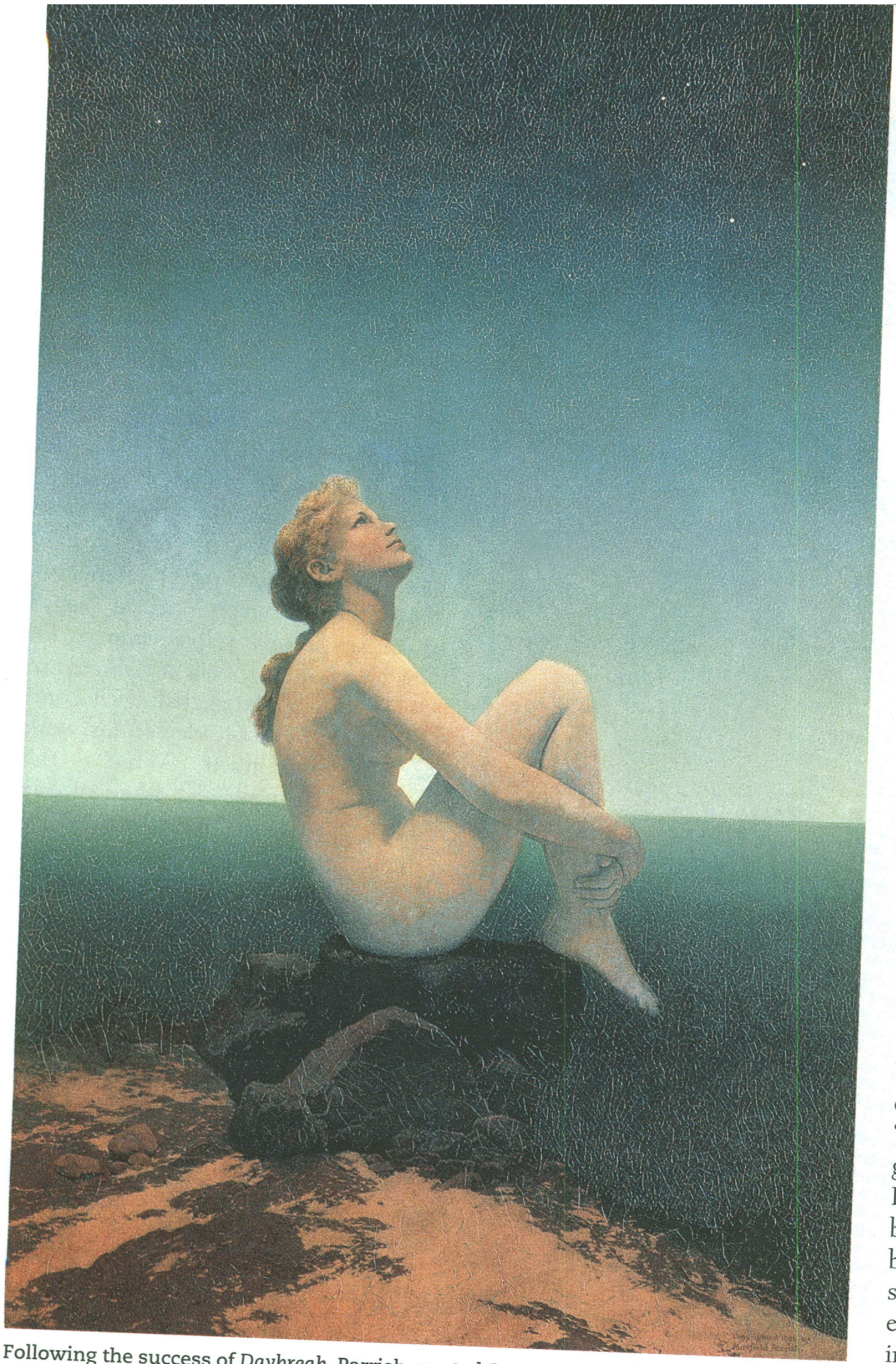
Painted for a 1910 issue of *Collier's*, whose large format allowed Parrish to explore more complex designs, *The Idiot* reveals the artist's talent for achieving vivid optical effects.

curators still don't believe Maxfield Parrish was an artist," Yount said. "I hope to fight that attitude."

But it will be an uphill fight. As Parrish matured, so did highbrow ideas of what art should be. In the wake of the 1913 Armory Show, which exposed Americans to Picasso and other moderns, critics proclaimed that a painting no longer had to be pretty, just personal. Countering the shock of modern art, Parrish became the anti-Matisse, a painter of pleasing pictures for the masses. Picasso had his Blue Period; Parrish had his blue rut. He began digging it in 1915 when Crane's Chocolates featured his romantic reveries on its holiday gift boxes. Reprints sold in the hundreds of thousands, landing Parrish contracts for annual calendars for General Electric. Weary of the "commercial game," Parrish tried a different market, creating paintings specifically to be made into prints. Yet the public demanded more of the same. Rather than renounce the income that let him live on his hilltop, he painted paradise ad nauseam. In the 1920s, his prints made him the highest-paid artist—or illustrator—in America. More than 17 million Maxfield Parrish calendars fed the public's hunger for his blend of the exotic and the erotic.

Modern art struggled with complexity, but Parrish viewed his work as simplicity itself. "What is the meaning of it all?" he asked of one work. "It doesn't mean an earthly thing . . . something beautiful to look upon: a good place to be in. Nothing more." Some critics say if you've seen one of these Parrishes, you've seen them all, but one in particular captured the public's fancy.

As the nation accelerated into the 1920s, Parrish was part of the cultural landscape. In his story "May Day," F. Scott Fitzgerald called a window's reflection "a deep, creamy blue, the color of Maxfield Parrish moonlight." Hoping to be more than a cliché, Parrish began dreaming of "the great painting." He prepared a small canvas and began "thinking great things into it." He then posed a young Cornish neighbor and his 11-year-old daughter, Jean—one reclining as the other bent over her—and framed them in pillars according to principles of "dynamic symmetry," a contemporary theory that championed harmonious patterns of interlocking forms. Behind, he painted a garden draped in blossoms fronting the usual perfect peaks. The result was *Daybreak*, and it became, in the words of a Parrish biographer, "the decorating sensation of the decade." Given as wedding gifts, hung in homes and, of course, in college dorms, *Daybreak* sold more than



Following the success of *Daybreak*, Parrish created *Stars* (1925). Though it became one of his most famous images, Parrish felt that the nude should have been more idealized.

PRIVATE COLLECTION

200,000 prints. In 1925, when a New York gallery exhibited 50 Parrishes, the original and two other works each sold for $10,000, then a record for a living American artist. The buyer of *Daybreak* swore the gallery to secrecy, thus as it became one of the most reproduced artworks in history, no one knew where the original was hung. The mystery went unsolved for nearly a half-century. Then in 1974, the painting surfaced at a Boston gallery. *Daybreak*'s buyer had been politician William Jennings Bryan, the grandfather of its reclining model, Kitty Owen. Bryan had installed the painting in a climate-controlled stateroom on his yacht and allowed only a few friends to see it.

Parrish's admirers are more varied than his works. Among his collectors are film stars Jack Nicholson and Whoopi Goldberg, and that master of his own make-believe, *Star Wars* creator George Lucas. Yet anonymous fans have gone to great lengths to acquire an original. In 1935, Parrish's *Twilight* sold for $3,000, a fortune during the Depression. The buyer was a young schoolteacher. "Everybody thought I had lost my mind to spend all my teacher's salary on a painting, but I wanted it more than any other thing I ever bought," the woman told Parrish collector Alma Gilbert. Gilbert understood perfectly.

During the 1970s, Gilbert ran a small gallery in San Mateo, California. She specialized in "investment art," handling Andrew Wyeths, Rembrandt etchings, and works by various local artists. When one customer asked Gilbert to get a Maxfield Parrish, she had no idea she was about to fall in love. As we stand before the artist's glittering *Land of Make Believe* in her Cornish Colony Gallery and Museum, Gilbert explains. Searching for Parrish, she found his works at the Vose Galleries in Boston. Alone with dozens of his works, she was smitten. "It was that wonderful, absolutely glorious sense of light in his paintings. I was transported into them." Gilbert bought not just one Parrish that day but 17. Since then, she has owned some 300 Parrishes, has written several books about the artist and lives in his own paradise.

In 1978, Gilbert bought The Oaks and opened a Parrish museum there. Less than a year later, the magnificent house burned to the ground. More than 20 years after she saw her first Parrish, she has endured a divorce, near bankruptcy and a lawsuit over Parrish copyrights, which she won. This summer, her Cornish gallery will offer the first public showing of the murals that Parrish painted for Gertrude Vanderbilt Whitney from 1914 to 1916. Next summer, she says, there will be another Parrish show. And another. And another. "It will always be Parrish here," Gilbert

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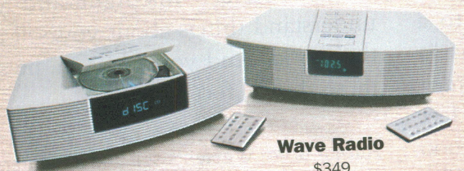

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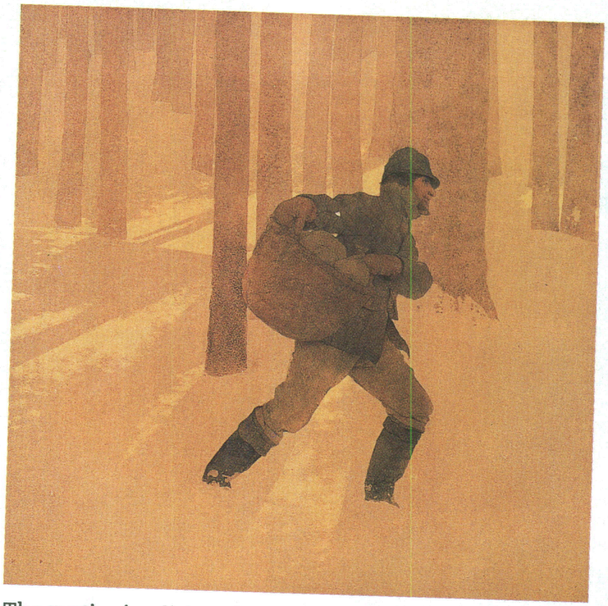

The rustic simplicity of *Winter*, painted for a 1906 *Collier's* cover, evokes the work of such artists as Winslow Homer.

COLLECTION OF JOAN PURVES ADAMS

told me, "until they plant me."

Gilbert's devotion is not hers alone. During the Depression, when a colorful print on the wall was the only art most Americans could afford, the three most reproduced artists were Van Gogh, Cézanne and Parrish. But the artist whose first commission had filled him with "wild fiendish delight" was tired. Tired of art, of paradise, even of his "tiresome M.P. blue." "I'm done with girls on rocks," he declared in 1932 during a rare interview. "I've painted them for thirteen years and I could paint them and sell them for thirteen more. . . . It's an awful thing to get to be a rubber stamp." Four years later, he painted his last human figure. Then, still vigorous at 66, up every morning at 5:30, he turned his energy to landscapes. "'Only God can make a tree,'" he often quoted. "True enough, but I'd like to see Him paint one." During the next 25 years, Parrish did more than 100 landscapes, half for annual calendars, the rest for his own amusement. He had finally earned his independence. When a publisher suggested he add excitement to a farm scene, he refused. The only way he could make the painting more exciting, he replied, would be to set the barn on fire. But with independence came neglect. Throughout his 70s and 80s, while art turned abstract, Parrish was passé. Then in the 1960s, art's pendulum swung again.

When New York's Gallery of Modern Art held a Parrish show in 1964, many were amazed to learn that the artist was still alive. Reporters trekked to The Oaks, where they found him living alone but still in wry humor. (Lydia had died in 1953, and Susan, having devoted her life to Parrish, had left The Oaks, at 71, to marry a childhood sweetheart.) Puttering around his home, often humming, Parrish was bemused by the sudden attention. "How can these avant-garde people get any fun out of my work?" he asked. But Parrish was all the rage. In the next few years, 17 museums showed his work, and countless college students hung him again.

Parrish died as a dreamer should—peacefully. Four months short of his 96th birthday, he passed away in his sleep at The Oaks. Within a few years, he passed eternally into pop culture. The landscape from *Daybreak* has been featured on bank checks. Parrish images are sold as computer screen savers and mouse pads, refrigerator magnets, tote bags, even trading cards. As pop, Parrish is as popular as ever. Yet in his hometown, few were prepared for the outcry when one of his murals nearly left the city.

Just off Philadelphia's Independence Square stands a Maxfield Parrish rendered in glass. *Dream Garden*, in the atrium of the Curtis Center, is a collaboration. Parrish painted the garden in 1914, and Tiffany Studios spent more than a year turning it into a mosaic. Hailed at its unveiling as "a veritable wonderpiece," *Dream Garden* stands 15 feet high and nearly 50 feet long. It contains more than 100,000 pieces of glass, in 260 colors. The mural weighs four tons, but that didn't stop it from being sold and almost moved this past summer. When the *Philadelphia Inquirer* announced that the masterpiece was destined for a Las Vegas casino, petition drives, letters to the editor and public demonstrations were mounted to save Philadelphia's own Parrish. Responding to the outcry, *Dream Garden*'s new owner, casino mogul Steve Wynn, graciously withdrew his bid. The city then moved to protect the mural from the market, designating it Philadelphia's first "historic object." Future attempts to send the work packing will require approval by the city's Historical Commission. The decision is currently under appeal and the argument continues.

At twilight, the sky above Mount Ascutney is still as cerulean as ever. Last February, Alma Gilbert took me up the hill to The Oaks. There I understood how Parrish came to be on such intimate terms with paradise. From The Oaks, which Gilbert rebuilt following the fire, one looks out on a scene worthy of a Parrish calendar. The gently sloping mountain soars above lofty ridgelines. Unfolding fields and pastures seem to stretch into infinity. Towering oak trees dwarf the house and frame the view. Parrish did not imagine paradise. Like his fans who feel beckoned to enter his prints, he lived in it. "Parrish stirs something deep within people," Gilbert told me as she stood on his favored hilltop looking out at the blue. "You see his light and you understand things about yourself and the world. And you say, 'Oh, he saw these things, too.'"

Author Bruce Watson's son and daughter are great fans of Parrish's children's illustrations.

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40	$ 148	$ 183	$ 185	$ 263	$ 273
45	$ 200	$ 210	$ 265	$ 360	$ 393
50	$ 260	$ 305	$ 375	$ 535	$ 590
55	$ 380	$ 428	$ 578	$ 1,018	$ 1,065
60	$ 528	$ 675	$ 865	$ 3,140	$ 3,140
65	$ 838	$ 993	$1,633	$ 4,100	$ 4,100
70	$1,400	$ 1,637	$3,283	$ 5,270	$ 7,220
75	$2,797	$ 4,770	$6,560	$10,370	$10,370

Male Premiums

Age	10 YEAR	15 YEAR	20 YEAR	25 YEAR	30 YEAR
35	$ 138	$ 153	$ 178	$ 245	$ 273
40	$ 161	$ 199	$ 243	$ 345	$ 360
45	$ 240	$ 315	$ 375	$ 500	$ 523
50	$ 358	$ 483	$ 558	$ 798	$ 838
55	$ 535	$ 720	$ 848	$ 1,640	$ 2,810
60	$ 860	$ 1,070	$1,353	$ 4,100	$ 4,100
65	$1,453	$ 1,813	$2,850	$ 5,270	$ 5,270
70	$2,620	$ 3,503	$5,405	$ 7,370	$10,070
75	$4,415	$ 7,848	$9,650	$13,640	$13,640

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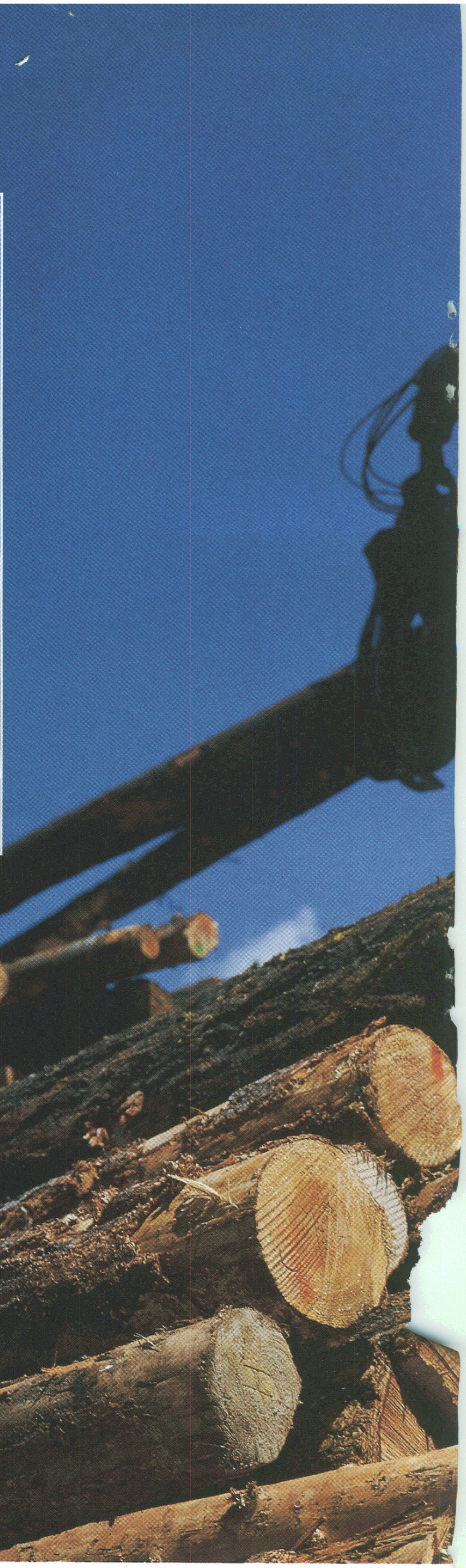


BY EDWIN KIESTER, JR.

PHOTOGRAPHS BY GERRY GROPP

FISTFIGHTS, GUNSHOTS, VANDALISM—GREENS AND LOGGERS COULDN'T AGREE UNTIL THE QUINCY LIBRARY GROUP GOT THEM TALKING

A Town Bur

Michael Jackson (left), an environmentalist, and lumberman Tom Nelson (below) met to end the gridlock.

ies the Axe

WHILE I AM STUDYING THE LIST OF OMELETS AND VEGgie burgers in the Morning Thunder Cafe in Quincy, California, Tom Nelson is looking around with a bemused expression. The restaurant is adorned with tie-dyed T-shirts and ads for self-actualization groups and rock concerts and is dominated by a giant espresso machine. To many old-timers in the Sierra Nevada town of 5,000, Morning Thunder is a hotbed of tree-huggers, hippies and out-and-out radicals. Nelson is a forester for Sierra Pacific Industries, the largest private timber owner in California, and a logger to the bottom of his calked boots. He shakes his head ruefully. "There was a time," he smiles, "when I would have been persona non grata in this place."

Quincy folks are not yet erecting statues of Nelson and his fellow members of the quaintly named Quincy Library Group (QLG), but they are grateful that the group has brought a measure of peace to a town once divided into warring camps. Last October, after a six-year effort, Congress approved a $12-million, five-year, locally drafted pilot project for three national forests around Quincy, allowing limited logging while protecting many environmentally sensitive areas. The bill sprang from an unprecedented community collaboration in which environmentalists, loggers and political officials put aside differences to reach agreement. Not that the outcome was 100 percent popular. National and some regional environmental groups have bitterly labeled it a sellout to the timber industry—"a sweetheart deal for Sierra Pacific," fumes Louis Blumberg of the Wilderness Society.

Perhaps unsurprisingly, many relieved Quincy denizens disagree. "I'm very pleased the way it's brought the community together," says Janet Hilde, an attorney who describes herself as having been "neutral" during the logging wars.

Others portray the agreement as grassroots democracy at its finest. "This is what I learned about in school," Nelson says. "Local citizens getting together to resolve their differences and coming up with a policy that's best for everybody. That's what the American system is all about."

For generations, men have been

The trees above burned in 1994 in a fire fueled by smaller growth. Forest fires have replaced clear-cutting (at left is a view of how one such cut, from the 1980s, looks today) as the primary concern of a united community.

cutting down the giant softwoods on the mountainsides above Quincy; logging has been practically a local religion. The nearby eastern Sierra slopes bristle with hundred-foot-high ponderosa, lodgepole and sugar pine and Douglas fir, the stuff of two-by-fours and planking, doorframes and windowsills. Quincy's largest single nongovernmental employer is the Sierra Pacific sawmill, but many others depend upon a prospering timber industry for their livelihood.

Walled off from much of California by the Sierra rampart, Quincy has been a backwater in the nation's most populous state. With its classic small-town Main Street of pharmacies and bars, churches and barbershops, Quincy is the Plumas County seat and largest settlement. The county population numbers only 22,000, spread over a territory the size of Delaware. Three quarters of the county is federal land, mostly the jurisdiction of the U.S. Forest Service.

For decades, the town was all but ignored by outsiders. But in the 1960s and '70s, attracted by the verdant hillsides, the unhurried pace and the low cost of living, urbanites fleeing cities found refuge in the rural community. They were soon shocked by the Forest Service's approval of clear-cutting great swathes of the mountainside, destroying the very beauty that had brought them there. Newcomers and a few locals began to coalesce into an environmental movement.

One of the newcomers was a blocky, bearded attorney named Michael Jackson, who had turned his back on urban California in favor of a law practice in the mountains. "In a logging town, not many lawyers would take environmental cases," he says. "I became the attorney of last resort." He represented fishermen fighting stream pollution and ranchers protesting the use of pesticides. Jackson, by his own proud admission, is abrasive and confrontational, and he quickly became the loggers' Public Enemy No. 1. After passage of the California Wilderness Bill, designating some forest areas as wilderness, he boasted about it in a loggers' bar and was thrown through the swinging doors headfirst. He landed under a logging truck. "I deserved it," he says now. "I shouldn't have gone in and gnawed on them like that. I knew I wasn't their poster boy."

In the go-go '80s, loggers harvested more than 250 million board feet of timber in Plumas County annually, enough to construct 20,000 homes. Most of the harvest came in what Jackson called "god-awful ugly" clear-cuts, as the Forest Service pushed for "even age" forests. The service built new logging roads to haul out the timber, despite claims that doing so upset natural drainage and destroyed fish habitat. In 1988, the Forest Service presented a long-term plan for cutting up to 265 million board feet of lumber a year over the next ten years.

Meanwhile, due in part to automation and computerization, in a region that once hummed with dozens of sawmills, their numbers dropped to a handful—producing just as much lumber, but with far fewer jobs. And the controversy over spotted owls rippled into California. Although the California bird was not yet considered endangered, a cry went up to protect the old-growth conifer forests where it nested.

The Sierra Club, the Wilderness Society, the Natural Resources Defense Council and the Friends of Plumas Wilderness formed a coalition to halt the worst of the environmental damage caused by logging. They drew up a proposal that, among other things, forbade logging in roadless and old-growth areas and along streams. The Forest Service rejected that part. The service did endorse some of the coalition's suggestions, but dismissed the protection of older, larger trees as "unscientific." The accepted forest science, officials said, called for clear-cutting.

The environmentalists then took matters into their own hands. They filed a blizzard of appeals of many timber sales. Legal maneuvering didn't stop logging but did intermittently delay it or shut it down, throwing many loggers out of work.

The jobs-versus-trees conflict quickly spilled into the streets. "We'd look out Mike's law-office window and see a logging truck parked across the street with three giant old-growth logs, just to taunt us," remembers Linda Blum, a former Audubon Society wildlife specialist who was then working on Jackson's staff and now is a leader of the QLG. Taunting, in fact, was mild. "One morning, we found bullet holes through the office windows," Blum says. On the other side, Jackson says, unknown persons trashed and torched one logger's equipment to the tune of $125,000 worth of damage. There were anonymous telephone threats, stone throwing and fistfights. Editorials lambasted the environmentalists. In 1988, Jackson ran for county supervisor. He lost Quincy by 17 votes—evidence, he says, of how polarized the community had become.

"It was an atmosphere of total hostility," Bill Coates says. "Everybody had a beef, everybody had an idea who to blame. Those seeing their jobs cut back or eliminated blamed the environmental movement. Environmentalists thought the forests were being abused and blamed the loggers. The Forest Service felt beleaguered, getting different marching orders all

Linda Blum (top), here in a favorite grove, was a leader in getting the town to work out an agreement. Mike Yost (above), of Feather River College, conducts a prescribed burn.

Bill Coates (top) was the catalyst for getting the talks going. His wife, Debra (above), is news editor of the *Feather River Bulletin*, which backed the plan.

the time. It was gridlock. Meanwhile, the environment was getting worse."

Coates, a thoughtful, slender man with steel-gray hair, had come to Quincy in 1974 with a master's degree in business and opened a tire shop on Main Street. He served 18 years on the county board of supervisors, including four stints as chairman. Coates tended to side with the timber industry, which after all provided jobs and was the region's economic base. Part of the county's own budget depended on logging income. Because federal land could not be locally taxed, by law 25 percent of logging revenue was returned to the county for school and road expenses. The periodic shutdowns played havoc with both.

One wintry afternoon, Coates sat in the tire shop office and recalled grimly the battlefield atmosphere. "It wasn't just the economics," he said. "It was the social cost. It was killing the town, this choosing up sides. It's one thing to attack your opponents on a national level. You don't have to deal with them in the social sphere. In a small town, you meet the people on the other side every day. You run into them at the shopping center, or the Little League games or at church. Your kids are in school together. They're your neighbors."

After President Clinton was elected with green support in 1992, the pro-logging side feared the national forest "cut" would be reduced, perhaps below the amount proposed by the coalition earlier. Suddenly, to people like Coates, the coalition proposal didn't look so bad. He picked up the phone and called Jackson, the most visible environmentalist.

"This community deserves for all of us to put aside hatred," he told Jackson. "For the good of the town, would you be willing to sit down with someone from the timber industry and see what you can agree on?" Jackson admits he "fenced with him at first." Finally he said, "Why don't we have lunch at the Morning Thunder and talk about it?" Coates gulped. "I've never been in there. How about Bob's?" he said, naming a loggers' favorite across from the courthouse. "I've never been *there*," Jackson said.

A week later, Coates came to Jackson's office with Nelson. "We spent a lot of time separating out things we knew we could never agree on," Nelson says. "We realized we could argue all night about what *not* to do. The point was to see what we *could* do. The motive didn't matter." At the end of a loud evening, they had agreed on one point: to keep talking.

The three scheduled another meeting, then a third. "We found a surprising amount of common ground," Nelson says. "But we still yelled a lot." Once the arguments grew so raucous that Jackson's librarian wife,

Ruth, stepped across the street. "You can be heard all down the block," she chided the three men. "Why don't you come over to the library? Then you won't be able to shout."

The Plumas County Library is a low, unprepossessing one-story building just off Main Street. One wing houses a spartan public meeting room, to which the chastised but still argumentative trio adjourned. As the group expanded, the membership kept carefully balanced between environmentalists and timber people, the library seemed an ideal meeting place. "We needed a neutral place and name that didn't say 'pro-environment' or 'pro-logging,'" Linda Blum recalls. "Who could argue with a library?" Anyway, she says, the contending participants liked the idea that they had to keep their voices down.

Conspicuously left out of the meetings was the Forest Service. "We recognized their role as stewards of the land," Coates says, "but we thought our role was to express what citizens think. Government agencies tend to absorb people like us. We didn't want them to love us to death." Later the service was invited to attend, but representatives were never given a vote.

There are few secrets in a town like Quincy. As the whispering increased, the group decided to brief the townsfolk and ask for their support—or rejection. More than 250 attended a Saturday afternoon town-hall meeting, including a contingent from the Forest Service. Jackson, Coates and Nelson outlined the progress of their proposed collaboration and asked for a show of hands. Only about ten people wanted the talks dropped.

In August 1993, the onetime archenemies formalized a three-page Community Stability Proposal. Working from earlier maps of old-growth timber and roadless areas prepared by Mike Yost, of Feather River College, they agreed to earmark a half-million acres of three national forests off-limits to logging. Clear-cutting would be replaced by "group selection" logging, with large trees left standing and smaller trees harvested around them. Owl habitat would be protected; buffer zones for streams would be established. Trees more than 30 inches in diameter could not be cut. Local mills would be given preference. The total harvest would be less than 200 million board feet a year. The long-term goal would be to restore the forest to its state of 100 years before.

KEEP C
⚠ DANGER

A Sierra Pacific feller-buncher cuts a stump. Grabber arms above the cutting wheel can hold several trees and pile them neatly where they are wanted.

Thirty-six citizens who had participated signed the Community Stability Proposal, Coates says proudly: "A cross section of the community. Cattlemen, homeowners, teachers, union officials, blue-collar workers, government people, well-recognized environmentalists. And four years later, not one has broken their promise."

On a snowy afternoon, Jackson, Blum, her husband Harry Reeves and I stood at Cottonwood Campground, in a frigid forest a few hundred yards off U.S. Highway 89. Towering pines soared above us. At ground level, most undergrowth had been cut back;

After a truck has dropped its logs in the Sierra Pacific yard, this apparatus lifts the front of the trailer onto the cab, making the rig shorter and easier to drive in tight turns.

we could clearly see to the highway and its occasional traffic. "This is what the forest looked like a hundred years ago," Blum said, spreading her arms in a sweeping motion. "A 1900 analysis described a parklike setting dominated by large trees." Pictures show huge trunks so far apart that you could drive a team of horses between them. There is little understory because it had been burned away by periodic fires. This area resembled the 1900 forest because the Forest Service had thinned it as a test of QLG principles, she said.

Cottonwood also represented a major shift in QLG strategy. In July 1994, near where we now stood, a fire broke out in the undergrowth and quickly jumped to the crowns of the pines, swept from treetop to treetop and soon became an inferno. Before it was extinguished, the fire burned 47,000 acres of forest the group had sought to protect and very nearly consumed the town of Loyalton. It cost the state and federal governments $12 million before it was contained.

Blum led us to another part of the forest. She pointed to a pine perhaps 60 feet high. Clustered about it were smaller trees, almost leaning against the taller one. "Fuel ladders," Blum said. "White firs thrive in the shade, so they hug the pines like this. And they are very, very flammable. You get a lightning strike or a cigarette, and high winds, and the fire races up this ladder of firs to the crowns of the pines. And then you've got a raging hot, catastrophic fire that consumes everything—trees, wildlife, topsoil, everything. For 100 years, we've been suppressing natural fires, which would have kept this stuff down. Now we have a tinderbox, a calamity waiting to happen."

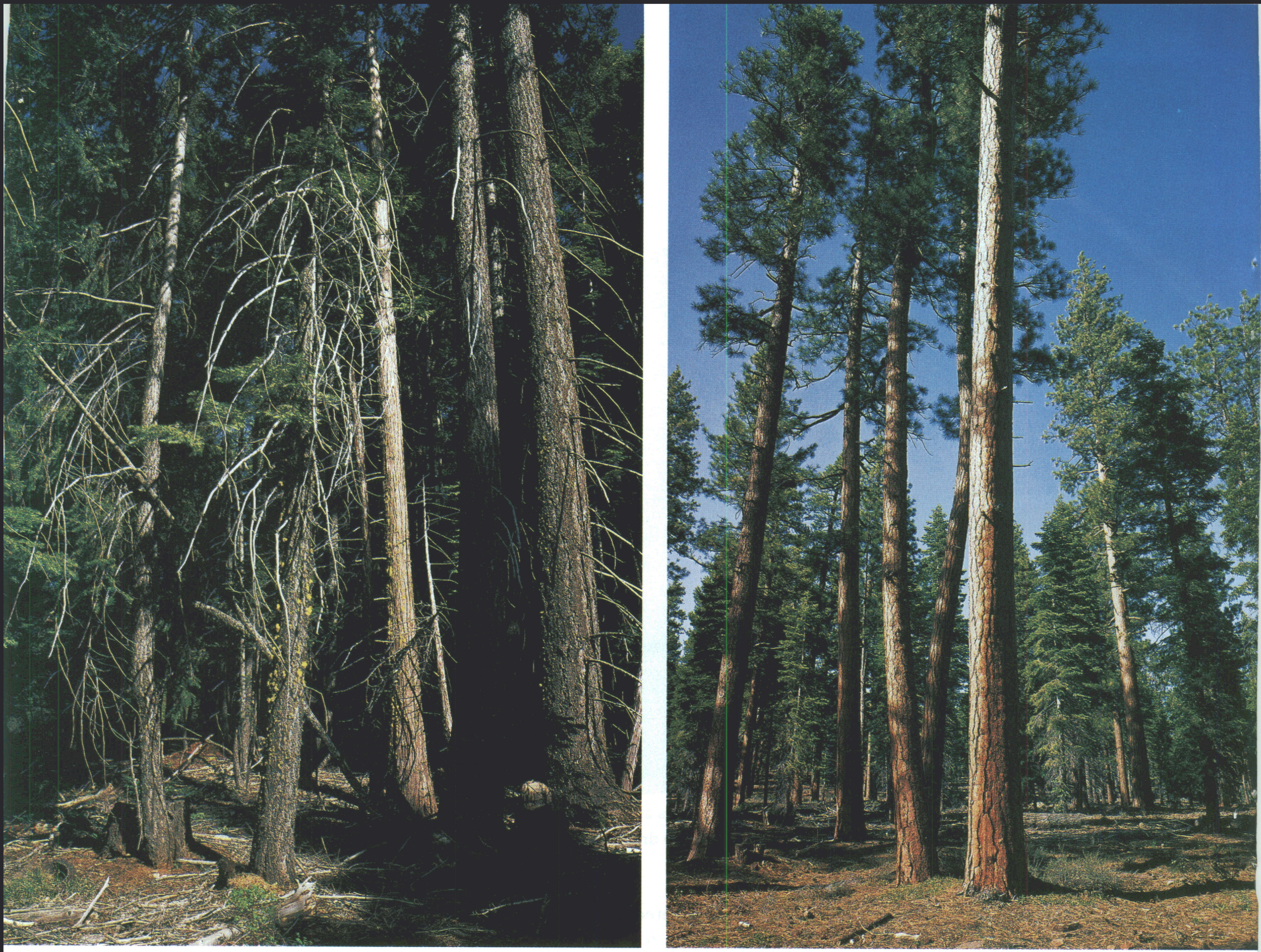
After the Cottonwood fire, the QLG made fire prevention the centerpiece of its recommendations. So did the California Spotted Owl (CASPO) guidelines, declaring that more owls would be lost to fire than ever would be lost to logging.

Under the leadership of George Terhune, a retired Pan Am pilot, the QLG now mapped out a network of defensible fuelbreaks, quarter-mile-wide strips along existing roads in which the understory would be thinned and prescribed fires set as appropriate. When the strips along roads were completed, the thinning would be extended to the rest of the forest. Cut brush would become fuel for the mills.

In late 1993, the group submitted its plan to the Forest Service. Sixty excited residents of Quincy traveled to Washington, D.C. to talk up the idea in meetings with Jack Ward Thomas, then chief of the Forest Service, Undersecretary of Agriculture James Lyons, who oversaw the Forest Service, and California's U.S. senators, Dianne Feinstein and Barbara Boxer. Then they went home and waited for something to happen.

And, Jackson says, nothing did. Lyons acknowledges that the "Forest Service of old" could be hostile to suggestions from outsiders, especially at the field level. Lyons, who met several times with the QLG, agrees with many of its positions but has misgivings about the overall plan, especially its size. The QLG, he says, "didn't think the Forest Service was moving fast enough and far enough. It's fair to say they were not getting a lot of support on the ground."

After what Jackson describes as two frustrating years, the QLG tried a different approach. With the help of Secretary of Agriculture Dan Glickman and Congressman Wally Herger, in 1995 the Forest Service received several small appropriations to test QLG ideas on a limited scale. Then,



Left: After 100 years of fire suppression, the smaller trees are an inferno waiting to happen. Right: The Quincy plan calls for thinning to eliminate all the extra fuel, leaving forests that look like they did 100 years ago.

in 1997, Herger introduced a bill directing the Forest Service to put the Quincy plan fully into action. It passed the House by 429 to 1. Senator Feinstein then introduced a QLG bill in the Senate.

Meanwhile, the Quincy collaboration underwent its most severe test—and its proudest moment. In 1995 Congress passed the Salvage Rider, a measure allowing loggers to "salvage" dead and dying trees in certain national forests. The Barkley tract in the Lassen National Forest lies on a ridge right above a natural salmon run and had been declared off-limits to logging by the QLG. Nonetheless, the Forest Service asked for bids on salvaging timber in the Barkley tract.

Even the QLG's opponents admire what happened. Although it would have been perfectly legal and correct, not one timber company submitted a bid. "A deal is a deal," Tom Nelson insisted, for the loggers. "We agreed that those lands were off-limits, and we're going to stick to it." The Forest Service asked for bids a second time, inviting loggers from outside the area to participate. There were still no bids. The QLG complained. In the end, Washington ordered local Forest Service officials to withdraw the offer.

Acting Regional Forester Brad Powell, whose jurisdiction includes 20 million acres and 18 national forests in California, agrees that the QLG helped focus attention on the fire threat. "If you think about it, no matter how you choose to manage a forest, if you're not successful in the management of fire, your plan can change very quickly," he says.

Powell was not assigned to California during the QLG's early days. In the beginning, he says, there was tension because the group didn't include the Forest Service in its discussions. But, he says, "I think it's exemplary when local communities work together and with us to develop better solutions. . . . We're encouraging local groups all over California to become engaged. I think we've learned a lot.

A few mornings later, the group was once more ranged around the table, pondering the future.

We're trying to be more responsive so that we leave sustainable forests for recreation, clean water, wildlife and for products that can help sustain the economy of the communities."

In the tumultuous run-up to the 1998 election, the Feinstein-Herger bill was included in the omnibus appropriations package that passed both houses in late October. The final bill differed little from the QLG's original proposal. The bill specified that 40,000-60,000 acres would be transformed into Defensible Fuel Profile Zones. Another 9,300 acres would be marked for group-selection or single-tree logging.

National environmental groups were angered by the QLG's decision to seek congressional action. "We don't believe that Congress should be deciding the course of action for individual national forests," says Barbara Boyle, of the Sierra Club. "Congress should set policy, but forest management should be left to the Forest Service. And why should a small group of local people determine what happens to a forest that belongs to everyone in the whole country?"

The Sierra Club opposes any form of commercial logging in the national forests. The Wilderness Society does not. But Louis Blumberg, of the California/Nevada office of the Wilderness Society, is one of the QLG's most implacable foes. He says that the final QLG proposal uses outdated 1980s maps. More recent mapping, he says, shows that the proposal missed 59,000 acres of old-growth timber, including the entire south fork of the Feather River, a prime logging site. But when he brought this oversight to the attention of the Quincy group, he says, they refused to reconsider and simply responded, "A deal is a deal."

The inclusion of the 9,300 acres, Barbara Boyle says, will double the previous year's cut. According to the Office of Management and Budget, the bill when fully implemented will permit a harvest of 250 million board feet, compared with the 1997 cut of 129 million board feet.

Despite the rhetoric, the QLG and its opponents are surprisingly close together in their thinking. Even Blumberg acknowledges that he favors what he calls "Quincy Lite." "There are many good things in the Quincy proposals," he says. "But they ought to be tested on a much smaller, more experimental scale." The opponents are grudgingly grateful to the QLG for focusing attention on the threat of fire.

Around Quincy, you hear that the opposition simply represents another chapter in the classic struggle between rural folk and city slickers. "There seems to be one set of rules for the urban, well-off, well-educated, and one for the stereotype of rural people, the rednecks," Jackson grumbles. "When we went to Washington, some people there, I'm sure, thought that we all looked like extras from the movie *Deliverance*." Blumberg hoots at that: "These people have shown that they are very, very sophisticated. They certainly understood how to manipulate the political process."

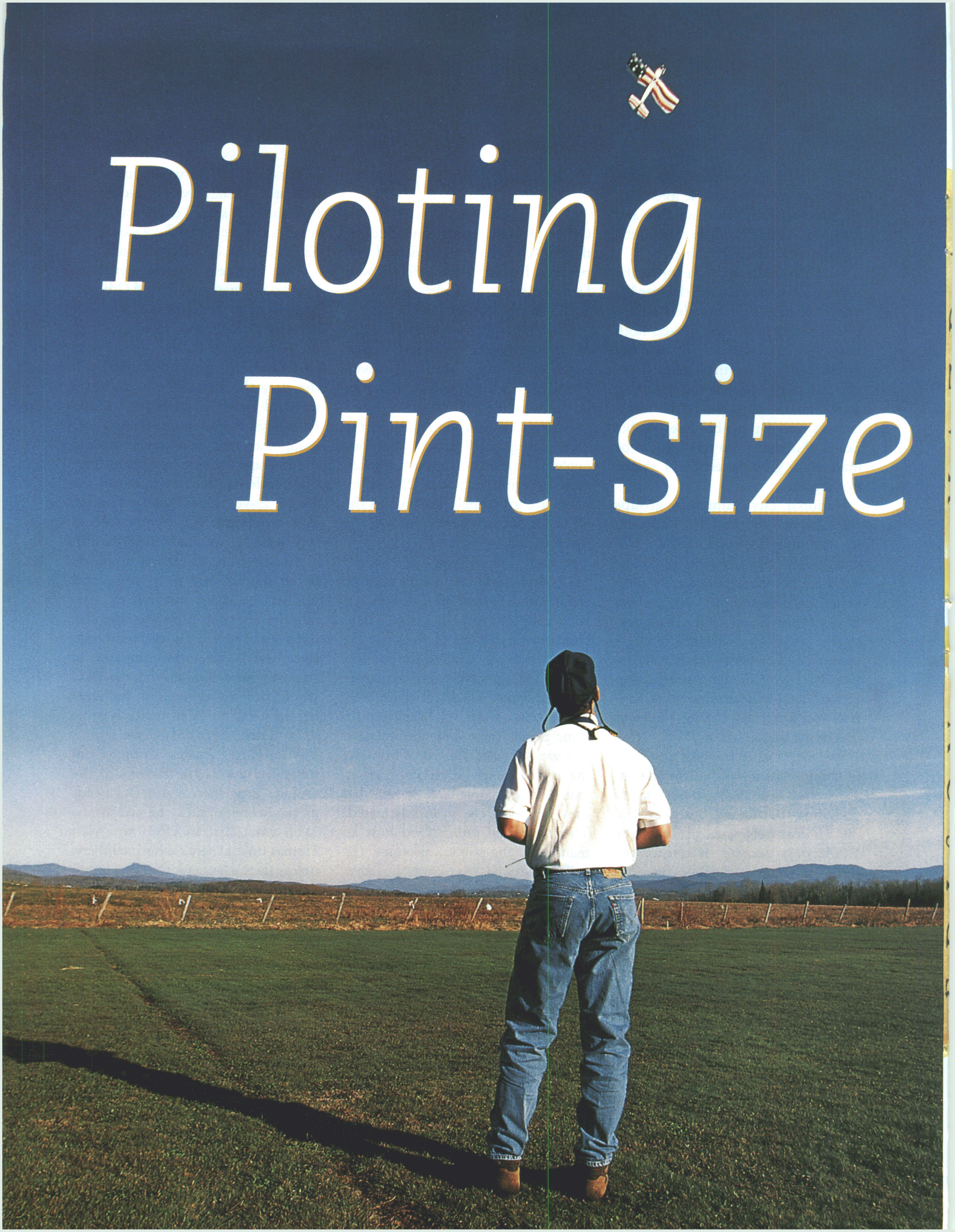
Bill Coates has his own perspective. The former county supervisor has looked sadly around the territory and seen the desolation of the nearby once-prosperous towns. Westwood, 40 miles to the north, is dominated by a huge statue of Paul Bunyan. Neither the legendary logger nor anyone else is processing logs in Westwood now; all the mills have closed, and, Coates says, the biggest source of income is welfare checks. In Greenville, when the timber harvest was reduced in the '90s, the town had to consider whether to close its high school. (It finally didn't.) "That would have been a disaster," Coates says. "In a town like that, the high school is the community center. If the high school closes, the heart goes out of the community."

After President Clinton signed the 1998 budget measure, the QLG held a small party at the home of Coates and his new bride, Debra, news editor of the *Feather River Bulletin*, which had backed the group in editorials all the way through. "It was more to unwind than to celebrate," Linda Blum says. A few mornings later, the group was once more ranged around the U-shaped table in the library, sipping coffee and contemplating the future. Dave Stone, representing the Forest Service, was firmly told to "get with it," in conducting the Environmental Impact Statement which, under the bill, had to be completed within 300 days, but which, two months after the bill's passage, still hadn't been started. (It has been begun since, and is due to be completed in August.) Blum also said that the QLG would now concentrate on monitoring the program. "Our motto is going to be 'Trust—but verify,'" she said.

Afterward, Coates summed up what he saw as the lessons of the Quincy experience. "America needs its rural communities," he said firmly. "You can't live in Ohio and visit Plumas unless there's a hospital there, unless there's law enforcement, unless there are roads to drive on. You have to have a local infrastructure, so that if they get hurt we can treat them, if they get lost we can find them. To keep that fabric together, the people of the town have to unite, to work together, to put aside their differences for the good of the town and the good of everyone."

Edwin Kiester, Jr., and his wife, Sally, wrote about the Philippines in May. Muscle Beach and cyber cops are among the subjects Gerry Gropp has shot for Smithsonian.

Piloting Pint-size



Planes

ACROSS THE COUNTRY, WEEKEND AVIATORS ARE SENDING THEIR REMOTE-CONTROLLED MODEL AIRCRAFT SOARING

BY RICHARD WOLKOMIR

I HEAR A BUZZ, LIKE AN IRRITATED GIANT HORNET. SLOWING MY CAR, I watch three men in a pasture, hunched over a knee-high yellow airplane. It seems to shiver with pent-up energy.

One man—Gulliver-like—straddles the plane to keep it from taxiing. It could be a Cessna at our small airport, just up the road, but it has only the wingspan of a bald eagle. Its stabilizers strain against the man's calves.

He holds a book-size radio transmitter, its antenna sticking out like a fishing pole. Thumbing the transmitter's two prongs, he waggles the airplane's ailerons and elevators. He turns the rudder. He throttles up the engine to a shriek, then steps away.

Liberated, the plane bumps across the grass, accelerating. It jumps a foot upward, wobbles on its wings, then noses up and climbs into the sky.

It evokes a childhood memory: I am launching a balsa glider, from the five-and-dime, dispatching the craft with a snap of my wrist. The glider zooms skyward. It loops on its back through the telephone wires, swoops down, then skids to a stop, neatly, right at my sneakers.

But these are grown men flying this miniature airplane. I decide to find out why. For one thing, I wonder—will they let me fly, too?

A few weeks have passed. I have learned that participants in the Vermont Modelers Club, some 40-members strong, are hooked on Saturday mornings in the sun, clear-

In a field that is home to the Vermont Modelers Club, mini-plane aficionado Mike Pecue puts his craft through its paces. He built his Uproar, painted in patriotic hues, from a kit.

PHOTOGRAPHS BY ROBERT BURKE

Pecue stores planes in his basement workshop.

ing their scaled-down aircraft for takeoff. Mike Pecue, a vice president in his family's auto-parts business, is a weekend regular, weather permitting.

We are in his substantial home, in his basement workshop. He shows me a miniature Telemaster trainer, a plane his 9-year-old son will be flying. "Brad's a really good flier on the computer simulator," Pecue observes. "I'm going to start him out on this model."

Recently, a miniature plane outdid Lindbergh and, unpiloted, crossed the Atlantic.

Pecue and his son share their passion with growing numbers of enthusiasts, here and abroad. To learn more, I call the Academy of Model Aeronautics, in Muncie, Indiana. Jay Mealy, programs director, tells me the academy began in 1936. The fascination with miniature aircraft goes back much further—one of the earliest recorded man-made flying devices was an ancient Chinese toy made of twigs and feathers. Centuries later, Igor Sikorsky, the Russian-born developer of the helicopters that bear his name, experimented when he was 12, in 1901, with a rubber-band-powered protocopter. Today, you can buy a radio-controlled model designed to snap aerial photographs of your house or company picnic. Recently, a 29-pound miniature plane outdid Charles Lindbergh, crossing the Atlantic with not even a pilot aboard. MIT has developed the prototype for a tiny spy plane, launched from an artillery shell, to carry a video camera over enemy territory.

But most of the academy's approximately 150,000 members fly just for fun. They belong to 2,500 academy-chartered clubs, nationwide. Besides providing liability insurance—in case your model runs amok—the academy annually sanctions more than 2,000 competitions. It sets safety rules. It also represents modelers with the U.S. Federal Aviation Administration and with sport aviation's world governing body, the Fédération Aéronautique Internationale. "We cover rubber-band planes, gliders, jets—everything," Mealy says. "But the majority are into radio-controlled piston-engine models."

Mealy tells me the typical modeler is male (only 5 percent are women). In many cases, the hobbyist got started as a youngster, sometimes because a relative flew models. "By high school, these guys discover cars or dating, but by

Junior aviator Brad Pecue, age 9, displays the Uproar.

age 30 they start coming back to modeling, which is both a hobby and a sport," Mealy says. "Membership grows at 1.5 percent to 3 percent a year."

Some modelers, he tells me, are well known, citing the late actor Henry Fonda and his actor son, Peter. Many modelers also fly the real thing. Enthusiasts include astronauts Neil Armstrong, Robert "Hoot" Gibson and Frank Borman. Mealy is a licensed pilot himself. "Modeling lets me do things I couldn't do in full-scale aircraft," he says. Also, modeling has a fundamental appeal: "You start with a pile of wood, and you end up with a machine that flies."

As for myself, I can't, at the moment, imagine applying myself to the intricacies of model building. I would be happy simply to fly a radio-controlled model, even the slowest, dullest trainer. Especially the slowest, dullest trainer!

My confidence has already been shattered. At a recent meeting of the club, with Brad Pecue as my instructor, I practiced piloting on a computer simulator. I repeatedly got the plane shakily aloft from the virtual runway, but then I would overcontrol. "Wingover," the 9-year-old announces, blasé, watching my on-screen Cessna go upside down. "Loop," he says, as I frantically wiggle a control prong. Or my plane noses up and stalls, wings shuddering. Each time, I close my eyes just before the inevitable splat against the virtual ground.

When I was a child in upstate New York, the automobile mechanic who lived across the street would land his Piper Cub in a baseball field two blocks away. I yearned to go up in that yellow airplane. Passing the modelers' field that Saturday morning brought back my childhood wish to motor up into the clouds. So here I am, on another Saturday morning, back at the field, ready to try my own thumbs on the controls.

"We can fly about 15 minutes on a tankful of methanol," modeler Cedric Royea tells me, squinting at the sky, holding the transmitter. Royea is my instructor, a calm presence. He will teach me to fly his trainer, called a First Step. "I'm in the landing pattern now," Royea says. "This is the downwind leg." He banks and turns the plane to the left, then left again, lined up with the field. The First Step settles onto the grass without a bump. Summoned by Royea's radio, it rolls to his feet, like an obedient pet.

Tex LaRosa, another mini-plane pilot who is watching, tells me: "We rent this field because it has no houses nearby, just those Holsteins over there." Some flying clubs across the country have lost their airfields because the screaming engines irritated neighbors.

I watch another club member, Albert Delude, set a smallish white plane, with just a three-foot wingspan, onto the field. "That's a Stinger," LaRosa tells me. "It's for stunt flying." Inside the cockpit bubble sits a tiny plastic pilot with a perky black mustache. As if the little plastic man were really piloting, the Stinger zooms upward. "We have about 40 active members right now and a number who fly full-sized planes, too, including some retired Air Force pilots," LaRosa says. "Sometimes the pilots have the hardest time with these models, because they're used to feeling the plane respond to the controls, instead of doing everything by eye, from the ground."

Now the Stinger screams down to skim the field one foot up. It zooms, rolls, corkscrews . . . The engine dies. It plummets nosefirst into the grass.

Delude carries the wreck back. He and LaRosa evaluate the carcass. Landing gear crumpled. Motor mount cracked. Propeller broken. "This will take about a half-hour of fixing," Delude shrugs.

Modeler Tex LaRosa designs some of the aircraft he constructs.

Royea has refueled the First Step. He turns the prop with his index finger—he is wearing leather gloves for protection—ready to pull his hand away at the moment of ignition. Ordinarily, the engine buzzes and the propeller blurs. But not today. One turn of the prop. Two. Three. It seems we're experiencing mechanical failure. Royea shrugs. "You'll have to fly another Saturday," he declares.

Awaiting a more propitious Saturday, I want to delve into the modeler's second arena: the workshop. That notion brings me to Tex LaRosa's garage. It looks like his own private National Air & Space Museum, with airplanes suspended from the ceiling. LaRosa points: "That's an Aeronca C3, a 1932 design, to one-quarter-scale, with a nine-foot wing and a .72-cubic-inch engine," he says. "And here's a seaplane I designed myself, and a 1930s-style biplane, which I also designed."

His real name is Reginald, but a liking for country music earned him the sobriquet "Tex." Unlike most modelers, he rarely works from kits. "Here's the beginnings of a Sikorsky S-39B, a plane Igor Sikorsky designed in the early 1930s, before he did helicopters," LaRosa tells me. We are in his basement workshop, looking at the Sikorsky's balsa bones on his workbench. He shows me photographs of the actual aircraft. "You just look at it and tears run down your face," he says. "Look at that beautiful thing!"

"I'm going to make that plane—it's taking a memory and making it tangible."

LaRosa begins the modeling process by gathering historical photographs and plans from such sources as the National Air & Space Museum. "Here's a picture of an S-39B used by Osa Johnson and her husband to explore Africa—they painted the hull like a giraffe," he says. "I remember that plane from travelogues shown in the schools in the 1940s, so I've been carrying its image for fifty years, and I'm going to make it and see if it flies—it's taking a memory and making it tangible," LaRosa tells me.

In the end, LaRosa will have an airplane. It will be small, but it will fly. And it will look real. Some of LaRosa's planes are of his own design. But most are scaled-down versions of real airplanes of the 1930s and the 1940s. "That was aviation's golden age," he tells me. "The planes I saw when I was a kid are more favorable to my eye—who the hell wants a jet?"

Some enthusiasts prefer different eras. "Now, this is a Bristol M-1, a British fighter," Dr. Kendal Frost observes, as we look at the models hangared in one of his restored brick farmhouse's spare bedrooms. His scaled-down airplanes are clones of the full-sized World War I originals. The Bristol M-1 is nearly the size of the bed on which it seems to have landed, its alert-looking pilot sporting a realistically hairy mustache. "That's my wife's needlepoint yarn," Dr. Frost explains.

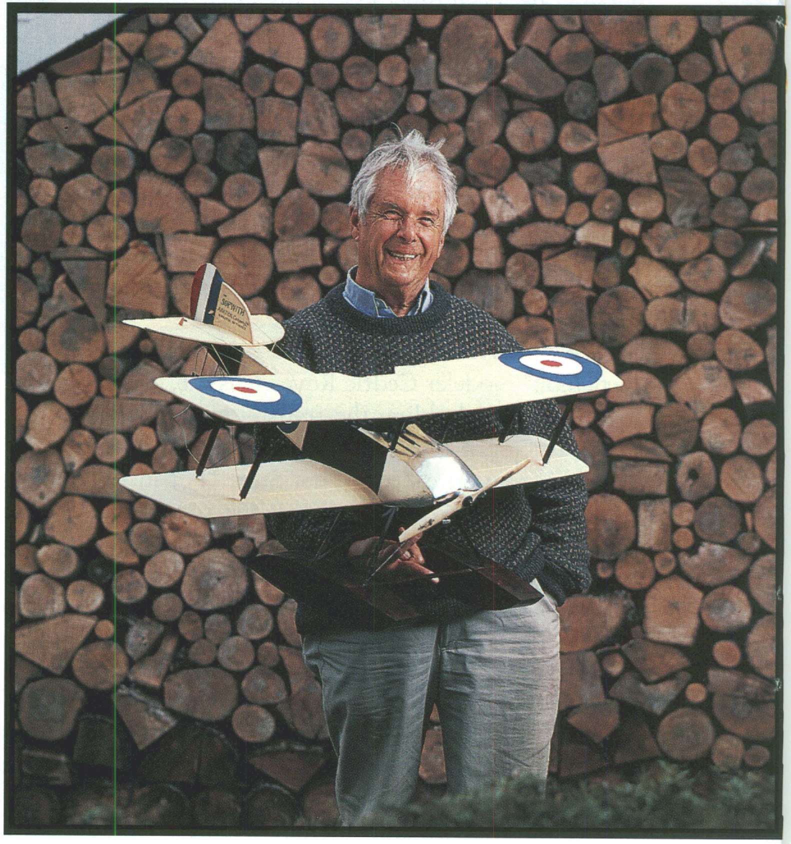
Dr. Frost, a retired orthopedic surgeon, built the Bristol from a kit, over four months. It is painted olive drab except for the aluminum engine cowling, targetlike wing insignia and a white-red-and-blue rudder. Poking out in front of the pilot is a Vickers machine gun, fully detailed.

After flying the plane once, Dr. Frost saw no need to risk the beautiful Bristol again and retired it to the spare room. "This one, on the dresser," he observes, "is a Sopwith Baby, which I spent three years building, and I doubt I'll fly this one at all." It is a floatplane, its tail inscribed "The Sopwith Aviation Company, LTD, Kingston on Thames." The wings are translucent, like a dragonfly's. The rear pontoon is suspended under the tail from an intricate web of crisscrossing wire struts.

Dr. Frost, a physician's son, grew up in Los Angeles, where he was born in 1927, and began building models at age 8, with friends. A three-year stint in London hooked him on World War I aircraft. "I was at St. Thomas Hospital, and I was fascinated by the scale models at the Imperial War Museum, a short walk away," he recalls.

When he began, models flew uncontrolled. "Sometimes you'd have a good flight and sometimes they'd spiral into the ground at great speed and vaporize," he says.

In 1971, he tried his first radio-controlled model. "Control



Dr. Kendal Frost built his Sopwith Baby over a period of three years.

From ceiling to bedstead, George Chandler's house is full of models.

was very satisfying, to say the least, although I managed only two or three circuits around the field before I smashed it into something," he says.

I ask him about costs. Most kits, he says, run $65 to $300. Materials average $100, radios about $140, and engines about $60. Used models can be bargains. But some models, like the newest addition to the remote-controlled aviation arsenal, miniature-engine-powered jets, can cost as much as an automobile.

Modelers also need tools. Dr. Frost shows me his workshop, where a new model's skeleton is partly assembled. Examining his shiny instruments—sharp blades, files, pliers, tweezers and more—I ask if surgical training helps. "This sounds bad," Dr. Frost admits, "but you actually have to be more precise cutting balsa because bone regrows to fill gaps!"

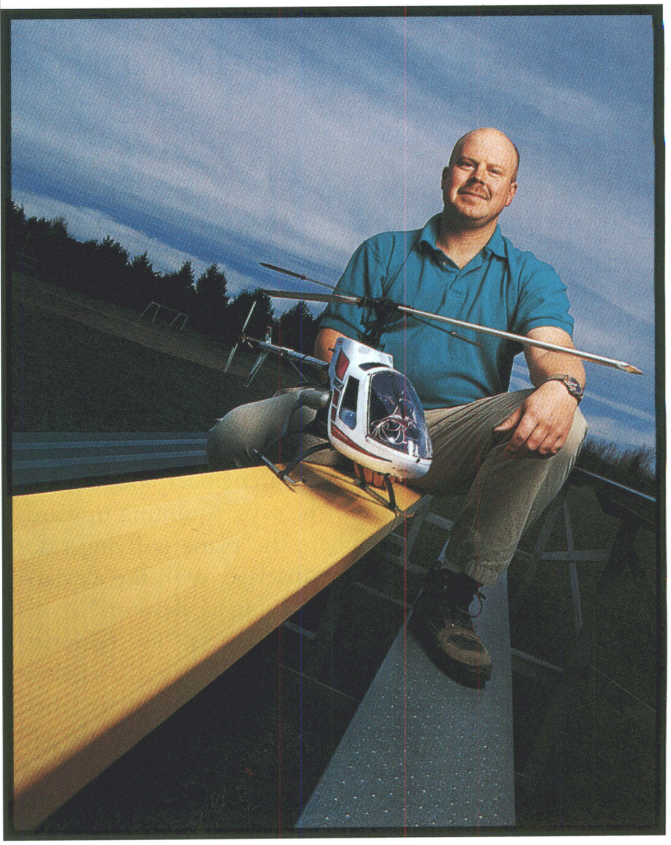
Not all modelers enjoy building. When I visit Cedric Royea, in his hillside double-wide mobile home, he shows me a prenatal TR-260 on his workbench. "It's an old French aerobatic plane, and work on it is stalled from frustration," he tells me. "It's been stalled for about a year now." He shows me a Sukhoi 60, a model of a Russian aerobatic plane: "Right now, I have a witch flying the plane to express my frustration with the building of it!" Occupying the backseat is a black cat.

Royea, who faintly resembles Cary Grant, is hardly unskilled. He has made a career of tending the mechanical needs of Air Force planes. He began model flying in the mid-1960s at Loring Air Force Base, in Maine, after watching a neighbor's model, controlled via 60-foot cables. "It was the flying, not the building—I build them only because I have to," he tells me. "And, to me, an airplane has to have a propeller on it—it's the sound of the engines. I've worked on military jets, but they've never fascinated me like propeller planes."

When I finally fly Royea's computer simulator, I send the plane into a dive, then straight up. I flip it. Coming down, I stall—we smash into the runway.

"Well," Royea says encouragingly, "at least we can walk away from it."

I sit in the next Thursday morning with some of the club's members at one of their regular winter get-togethers at Daddy-O's coffee shop, in a local mall. LaRosa is speaking inscrutably about some technical detail: "I'm not getting another one without mix!" (Navigation-wise, I



Paul Gauthier favors his nifty, and nimble, miniature helicopter.

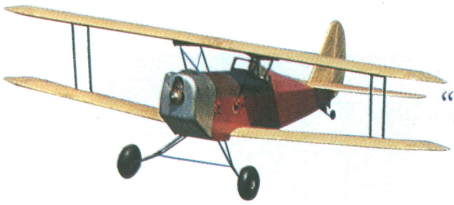
This Lilliputian replica pilots a Sopwith Baby.

later learn, that's sort of the model-plane equivalent of automatic transmission.) A weathered man with a shock of white hair, George Chandler, throws up his hands: "Let's not talk mix! Let's talk flying!"

Chandler, a retired radio technician for the Vermont Department of Public Safety, was born in Connecticut in 1922. After he left the Army, in 1946, he eventually earned a commercial pilot's license. His wife, too, became a pilot. From time to time, they even put on stunt performances. "It makes it so you don't give a damn which way the airplane goes!" he says.

Later I visit Chandler at his hillside farmhouse, the walls hung with antlers of the deer he and his wife have bagged. Models, too, are on display. "I can't remember when I began flying models, because I was so young—my mother got mad because they were all over the house," Chandler tells me. "I always wanted to fly."

Flying models or full-scale planes, the principles are the same, he says. "Except I can fly a real plane upside down easily, but with a model I have to think about it," he tells me. Once he flew a model toward himself, lost his sense of how to control it, and had to duck.



"I can't remember when I began flying models. I always wanted to fly."

Chandler sniffs at the club's younger hotshots. "There's guys up there who only do snap rolls, but there's nothing to that!" he says. As he explains his disdain, he notes that the model airplane flier relies on highly refined eye-to-hand coordination. A pilot in a full-scale airplane must draw on a much broader range of sophisticated skills.

Those young hotshots impress me. At the field, I watch Brian Morrisseau, a cable television engineer, looping and spinning a model. "Snap roll," he says, squinting upward. "And that's a knife edge, where the plane is flying sideways, the lift coming from the fuselage, with the elevator acting as rudder and the rudder acting as elevator."

Morrisseau lights up, talking about tricks. "I've been trying to learn to tumble, tail over nose," he says. "You slow the plane until it's ready to stall, going straight up, then give it power, left aileron, down elevator—it kicks the tail around and it looks like a duck that's been shot!" He likes to buzz the field, upside down. "That always wows the crowd," he says. "That's part of the excitement, other people watching—they think you're going to crash!"

I ask Morrisseau what attracted him to models. "As a kid, every day I'd fly 5-cent gliders in my backyard," he says. "One day I threw one up and it circled. Circled. Circled. Always rising. It kept circling upward for ten minutes, and then it was out of sight. Gone. I was upset because I'd lost my nickel. I didn't understand that it had caught a thermal. But it's always stuck in my mind, that plane circling higher and higher, until it disappeared."

Paul Gauthier, a state trooper, is pumping fuel into his white-and-red helicopter. "I used to do planes, but last year I got into these," he says, adding that the pilot must simultaneously control motion to the left and right, ascent or descent, throttle, blade pitch and roll.

He buzzes his helicopter upward, frowning over the controls. He makes it dart, pivot, hover. It flies backward, zooms up, dives, hovers again. "I'm almost ready to do loops, but I haven't got my confidence up yet," he says. "Eventually I'll be able to fly it inverted." Helicopters, he tells me, are harder to fly than planes: "When you hover, it's as if it were balanced on a pin."

As he sets the helicopter down, he tells me his father, a retired trooper, is flying models, too. "So it's really a family thing," Morrisseau says. "My 5-year-old daughter likes to see the planes fly, and I bought her a five-foot Styrofoam glider."

I introduce a subject certain to ignite heated debate among all modelers, young and old, hotshots and prudent navigators alike: jets. Most radio-controlled models fly with propellers, powered by what are essentially miniature chain-saw engines. Some jumbo models use actual chain-saw engines. Jets, however, are the cool new thing. But the club's members have astonished me: they like to watch them at meets, but fly these miniature jets themselves? They shake their heads, even the young hotshots.

"Sure, I'd like to get into jets—a guy I know has two F-18s, with real turbine jets," Mike Pecue has told me. "It took him two years to build his last one and he hasn't flown it yet because its wheels are too small to take off on grass, but he's hoping to use the runway at Plattsburgh Air Force Base, across the lake in New York."

Macadam runways are not the only disincentive. Minijets can cost $10,000, or more. A crash—and model planes frequently crash—would be a costly case of pilot error. Pecue is 35 years old. He says he'll eschew jets until he has assured college funding for his children. But he craves the jets' speed. The record, held by a Soviet, is 245.69 miles per hour. Speed, however, presents problems to the pilot, who stands on the ground, holding a radio transmitter.

"Even a jet flying only 120 mph goes a mile in 30 seconds," Pecue tells me. "So mainly you're zooming straight up, heading out, then immediately turning so it comes back before it's out of sight!" He shrugs again. "I want to go 150 mph, but I also want to fly upside down and do cartwheels and loops and knife edges and push the plane to its limit."

Cartwheels and loops are the furthest thing from my mind when my big Saturday finally comes. I just don't want to crash. At 8 A.M. I meet Royea at the flying field. He syringes fuel into the First Step's tank.

On the field's display board, he clips a clothespin to the peg marked "48," showing that radio channel is now in use. He makes sure the elevators, rudder and ailerons waggle in response to his radioed commands. Royea turns the propeller counterclockwise with a gloved finger, sucking fuel into the cylinder. "Some guys use an electric spinner to turn the prop instead of their finger, because the prop is the cause of most injuries," he says as the engine coughs and starts with a whine. Inside, a glow plug (a white-hot wire) is igniting fuel squirting into the cylinder. Royea unhooks the glow plug from its external battery. Now the burning fuel will keep it hot. As fuel burns, pistons are pushed down to turn the propeller.

Royea straddles the First Step's tail to act as a human brake. He revs the engine to a shriek, then brings it back down to an idle. He hands me the controls.

"Thumb the left stick forward or back, to throttle up or down, and move it sideways to control the rudder," he tells me. "Move the right stick forward or back to control the elevators, and from side to side to waggle the ailerons." I waggle everything. Tex LaRosa and Dr. Frost and Brian Morrisseau all told me they get weak-kneed flying a new model. So I do not feel so bad.

"Here we go," Royea says, freeing the First Step. It scurries across the grass. "When the tail comes up, it's about ready to take off," he says. The tail comes up. "Pull back on the right stick a little to edge the elevators up," he instructs. The First Step jumps into the air. It wobbles. "Give it a little forward stick to smooth the climb," Royea says. "Go up about 150 feet—if anything happens I can take the controls." That is reassuring. "Throttle back to cruising speed," he tells me. "It's almost too far off to see, so it's time to turn the plane—just thumb your right stick a little to the left," he says. Far out toward the trees, just a speck now, the First Step banks to the left and begins a slow turn.

I can make this plane do what I want! The elation, however, fades: I barely know what I'm doing. The little plane buzzes toward the Green Mountains on the horizon. "Give it a little left again, so it turns back this way before it goes too far," Royea says. I push the stick too hard. The First Step flips onto its back. I jab the stick forward and it noses down in a screaming dive. "OK, pull back on the stick and give it some right to straighten up," Royea says calmly. But I pull back too much, triggering an insane climb. I thumb the stick to the right, again flipping the First Step over.

Charles Sjobeck built his copter, a Hirobo Shuttle ZXX, from a kit.

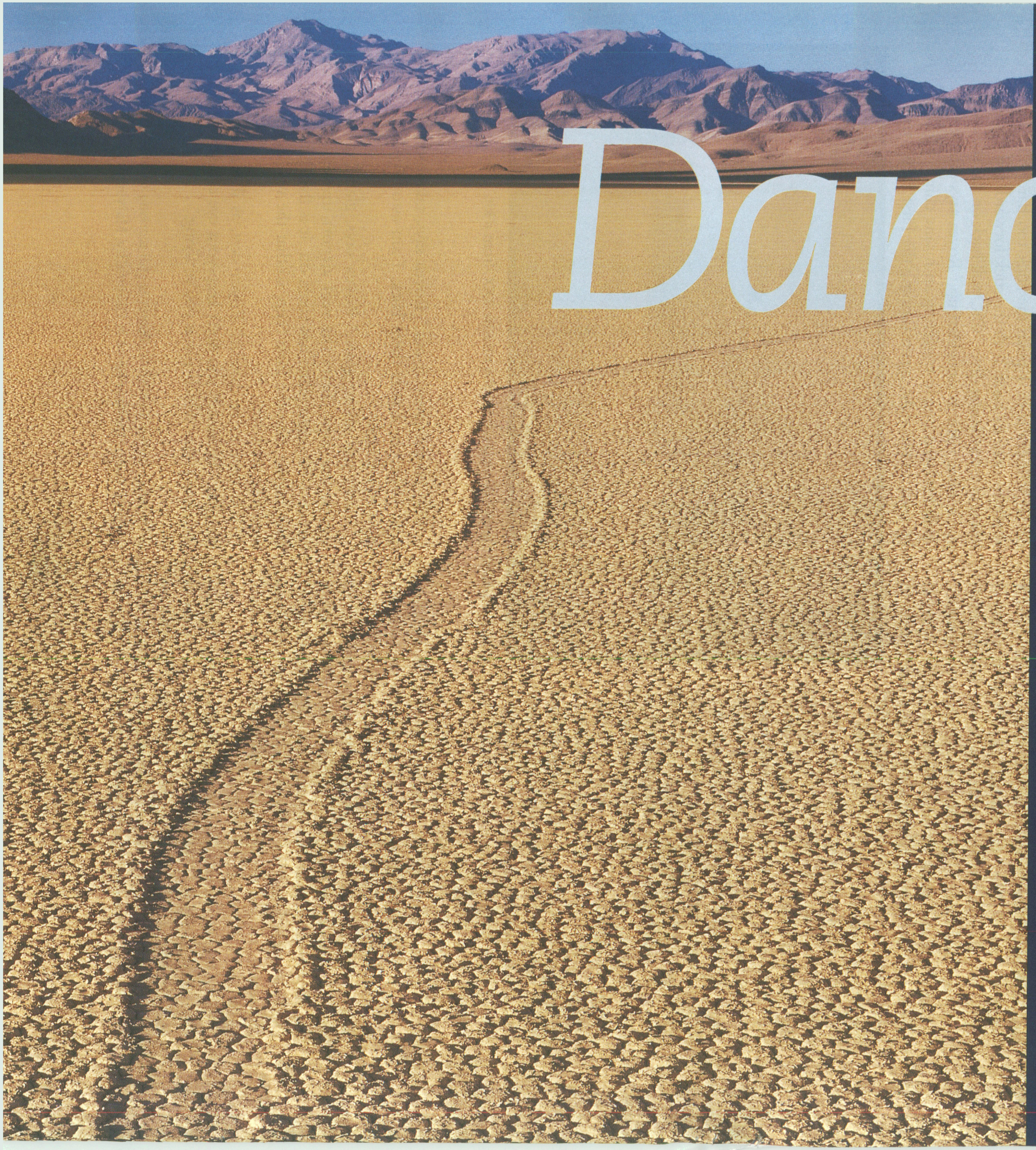
"OK, I'll straighten it out," Royea says, taking the controls. When he hands them back, I am astonished: I am eager to try again.

"Fuel's just about gone," Royea says, glancing at his watch. But now, from the real airport up the road, a brown UPS cargo plane has taken off. It is flying over the field, higher than the First Step, so that the two airplanes seem the same size.

"You have to be careful," Royea says, as if reading my thoughts. "Because if you don't keep your eye on the model, you aren't sure which plane you're flying." ♜

In Vermont, writer Richard Wolkomir is still working on takeoffs and landings. Robert Burke is based in Ellicott City, Maryland.

Dancing ROC



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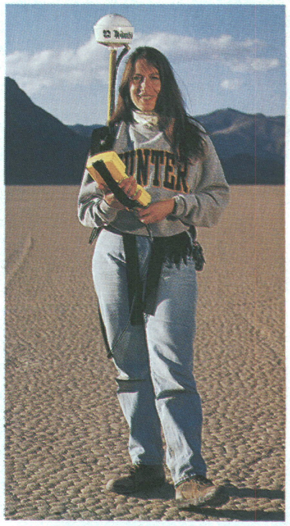
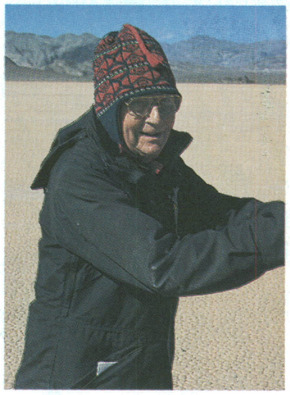
MYSTERIOUSLY
MOVING STONES
IN DEATH VALLEY
LEAVE WHIMSICAL
TRAILS. HOW DO
THEY DO THAT?

BY ROBERT EVANS





HEED THE WORDS OF ROBERT FROST ONE DAY AND TAKE a road less traveled by, one that will make all the difference. Go northwest from Furnace Creek in Death Valley, between the jagged rim of the Grapevine Mountains and the peaks and canyons of the Cottonwood range. Turn south-southwest past the vast bowl of Ubehebe Crater, and take a rocky unpaved track for 25 miles until you descend into a broad desert valley. Slow down now, rest your rut-and-boulder-shaken frame. Around one last bend in the water-gouged and gullied road prepare for a sight the like of which you have never imagined: the tracks of the sliding rocks of Racetrack Playa.

Only 2.8 miles from north to south and about 1.3 miles wide, the tan-colored Racetrack is arid, virtually devoid of vegetation and so flat that the north end is less than two inches higher than the south. Near that north end, the Grandstand—a small island of bare rock—looms dark against its light surroundings. Dozens of rocks, some weighing hundreds of pounds, rest on the surface of the playa. Many lie at the end of grooved tracks incised into the clay of what was once an ancient lakebed, now dry except for flooding after heavy rain that makes it dark and slick.

Tracks may be long or short, some half a mile, others mere tens of yards. Engraved straight as a ruler, or curving and sinuous, adjacent trails may parallel each other or cross and cross again. Some veer abruptly more than 90 degrees from their original route. Here and there, groups of two or three loop back on themselves, leaving trails that remind one of the paths of dancers in some stately, elegant minuet. And like dancers, some of the rocks must have spun as they moved, leaving wide and then narrower tracks, then wide again.

The rocks themselves may be as small as a lemon, or as large and blocky as an ice chest. They weigh anywhere from a few ounces to more than 700 pounds. Of the 162 recorded recently on the playa, more than 90 percent fell from a steep promontory composed of rock known to geologists as the Racetrack Dolomite, at the extreme south end of the playa. From that birthplace, most of the dancers have progressed to the northeast, winding and cavorting their way across the flat surface of the lakebed.

Take a walk out onto the Racetrack and you can imagine that the sun-cracked polygons beneath your feet are the cobbles on some medieval street in Europe. As you walk, your feet crunch curled clay flakes, breaking a silence that is almost absolute. And if you venture a few yards up the slopes around the southeastern side of the Racetrack, you can walk an ancient trail perhaps made when this valley was filled by a lake and the indigenous people walked its shores. In the shimmering 115-degree heat of the desert summer you may still see a lake in this valley, but only as a mirage.

Since the turn of the century, prospectors, scientists and the merely curious have traveled here from all over the world to see the rocks and their trails. The visitors are mystified by what they see, and guess that the rocks rolled onto the playa or were dropped as a fraternity prank. No one has ever seen one in motion, and only since 1948 have scientists made serious attempts to explain what makes the rocks move.

In that year, two U.S. Geological Survey geologists suggested that erratic whirlwinds known as dust devils could have caused some of the rocks to trace their serpentine paths. Dust devils flit across the desert in summer, when air heated by the hot surface rises, twisting skyward and creating miniature but powerful tornadoes that pick up dust as the whirlwinds move. To create his own wind, one enterprising geologist flew a plane onto the playa in 1952, soaked the clay surface to make it slick and then made movies of rocks that he blew about in the propeller wash of his aircraft. He was trying to mimic in a small way what nature showed him on the Racetrack. A different explanation came when George Stanley, of Fresno State College in California, mapped some parallel trails, and knowing that ice did occasionally form during winters in the mountains, concluded that the rocks became frozen in ice sheets that were blown along on shallow water.

This served to stimulate two other geologists to try to settle the matter once and for all: Was it ice, or was it

CLOCKWISE FROM TOP LEFT: GERRY GROPP; JOHN B. REID, JR. (3); PP. 88,89 RICHARD SISK/PANORAMICIMAGES

only the wind that moved the rocks? Robert Sharp, of the California Institute of Technology, and Dwight Carey, of the University of California at Los Angeles, watched 30 of the rocks for seven years, between 1968 and 1975. Coming back about twice a year, they recorded the movements and mapped the paths of the 28 rocks that shifted. As he and Carey worked, Sharp began a whimsical tradition. "The first time I visited Racetrack Playa, I was with a friend," Sharp said. "His wife Mary Ann was along. Later, once we started monitoring the rocks, we found one with a beautiful trail and named this first one after her." He and Carey then named others after secretaries and laboratory assistants, all women. "Jean is my wife's name," Sharp said, "and Grace was named after my aunt."

To test the ice-floe hypothesis, Sharp and Carey made a corral of stakes around some of the rocks, reasoning that ice frozen against the rocks would also be fast to the stakes, preventing any sliding. On one occasion, a lone rock sneaked out of the corral, leaving another still trapped. They also observed single rocks that joined a cluster of some others that were undisturbed. To Sharp and Carey, this indicated that although ice may have played a part in some movements, it was not the only means by which Mary Ann and Jean and Grace danced on the Racetrack.

As often as they went there, Sharp and Carey never saw a rock move, nor were they able to say conclusively that wind, and wind alone, was the cause. In a bit of levity, they wrote in the *Geological Society of America Bulletin*: "Some immutable law of nature

Racetrack Playa researchers (clockwise from top left) include: Paula Messina, two of John Reid's students surveying tracks, two others preparing to measure the force needed to move a rock, and Robert Sharp.

Dan Dellinges is the ranger responsible for protecting Racetrack Playa and has watched the strange behavior of people visiting the sliding rocks. He has seen them dance naked on the ancient lakebed. Nudity is not a breach of national park rules, at least not in the naked desert.

GERRY GROPP

probably prescribes that movements occur in the darkness of stormy moonless nights, so that even a resident observer would see newly made tracks only in the dawn of a new day."

By the middle '70s, when Sharp and Carey finished their study, the U.S. National Park Service was making serious attempts to protect the Racetrack, vulnerable to disturbances by tourists and scientists alike. Already in 1969, they had dug a ditch along the west side of the playa to prevent vehicles from driving on its surface. Rangers regularly inspected the place, removing rocks placed for curiosity and cleaning up visitors' debris, including shell casings and golf balls. Some researchers left stakes hammered into the surface, and painted or carved numbers and symbols on the original residents. The rangers noticed, too, that some of the sliding rocks had been stolen as souvenirs.

The latest research has produced two strong opinions. For John B. Reid, Jr., of Hampshire College in Amherst, Massachusetts, the rocks move in lockstep, rigid in a sheet of ice that floats on shallow water when the playa is occasionally flooded. As the ice is blown about by the wind, says Reid, the rocks scrape parallel trails in the fine mud of the playa surface. Paula Messina, assistant professor of geology at San José State University in California, sees the rocks, individually or in pairs and small groups, as being more free-spirited, responding to the wind across the wet and slick mud. Messina continued Robert Sharp's tradition of using female names as identifiers, keeping his names and adding those of women in her own life. This delighted Sharp.

Between 1987 and 1994, Reid took some of his students to the Racetrack to measure the force it would take to move the larger rocks and then calculate how much wind speed was necessary to provide that force. Their figure was hundreds of miles per hour, far greater than what the wind speed would realistically be. But Sharp is skeptical of the findings, because the finest dust on the playa—the clay particles that are the slickest when wet—is soon blown away after the playa dries, and probably was not there during the experiments. The wind speeds necessary to move a large rock would therefore be much lower. As for the trails, Reid used a geometric way of measuring how congruent they were, reasoning that the farther apart parallel tracks were, the less likely it was that the wind had formed them, and the more likely that ice slabs were involved. Seven tracks made by movements in the 1980s were very similar, as were six tracks formed in 1992-93. "For the wind to move two rocks several hundred yards apart and make exactly parallel lines," Reid says, "would be the equivalent of setting a bunch of monkeys down at typewriters and having one of them produce a Shakespearean sonnet."

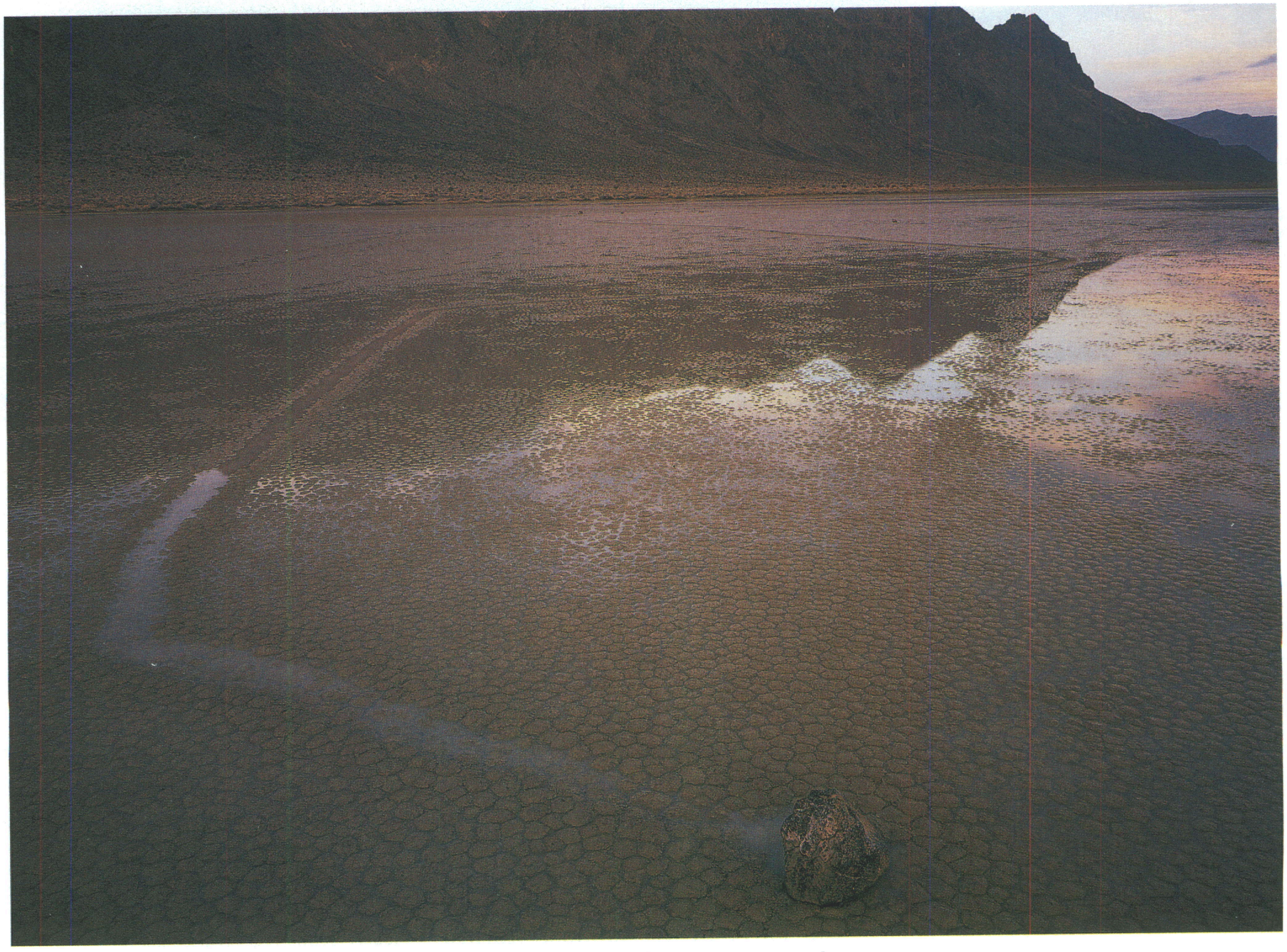
Messina does not agree. In 1996, she began a complete survey and analysis of every sliding rock on the Racetrack. It was a combination of the traditional geologic method of careful observation and modern technology: a satellite-based Global Positioning System (GPS) and a computer-based geographic information system. With GPS she could map all the trails quickly, and to an accuracy of less than a foot—now to a few inches—and with the computer she was able to superimpose her maps on a model of the terrain, and then with inferred wind data see how the rocks and the winds would interact.

"No one had looked at the big picture," Messina explains. "I wanted to see what the playa was saying." The playa was saying some surprising things, for although some tracks are parallel, the vast majority are not. Pamela, Amelia and Cynthia progressed to the northeast, rotating, turning this way and that, and finally parading together to the southeast. Julie and Jacki came closer and closer together, eventually turning and twisting southeast, northwest, then southeast again, making a grand loop back to the northwest, another to the northeast, with a few quick steps and turns back and forth before marching to the southeast as Pamela, Amelia and Cynthia had done. Helen was evidently a solitary dancer, looping a complete circle counterclockwise, then another clockwise, before ending with a straight path to the southeast.

"Reid's plots are remarkable. They are stunning," Messina says. "But I'm not sure you can look at only those few trails and conclude that ice is necessary for all the others. The overwhelming number of trails don't show parallelism, so you can't rule out wind alone." After studying them, Messina was satisfied that the rocks had not been locked together in ice. They were too free, too idiosyncratic. And she showed that the complicated patterns were traced where strong winds from two directions merged on the playa to create turbulence that might make the rocks dance.

Modern technology could easily resolve the controversy: attach small transmitters to the rocks to monitor their movement, and install a weather station to record rain, wind and freezing temperatures. If we can track animals, we can surely track rocks. But the entire Death Valley is now a national park and a U.S. Biosphere Reserve recognized by the United Nations Educational, Scientific and Cultural Organization, and carefully protected. The regulations say there can be no perturbation of natural features on the Racetrack because it is a wilderness area. That means that nothing can be moved, nor anything—like markings, labels or scientific equipment—added. It belongs to everyone, not only curious scientists, although some of the other visitors are curious in their own way.

Dan Dellinges is the ranger primarily responsible for protecting Racetrack Playa. He has worked in Death Valley since 1977, full-time since 1984, and has watched the strange behavior of people visiting the sliding rocks. Apparently, the very uniqueness and isolation of the Racetrack induces a freedom of expression that is not available in the everyday lives of many visitors. He has seen them dance naked on the ancient lakebed. Nudity, however, is not a breach of

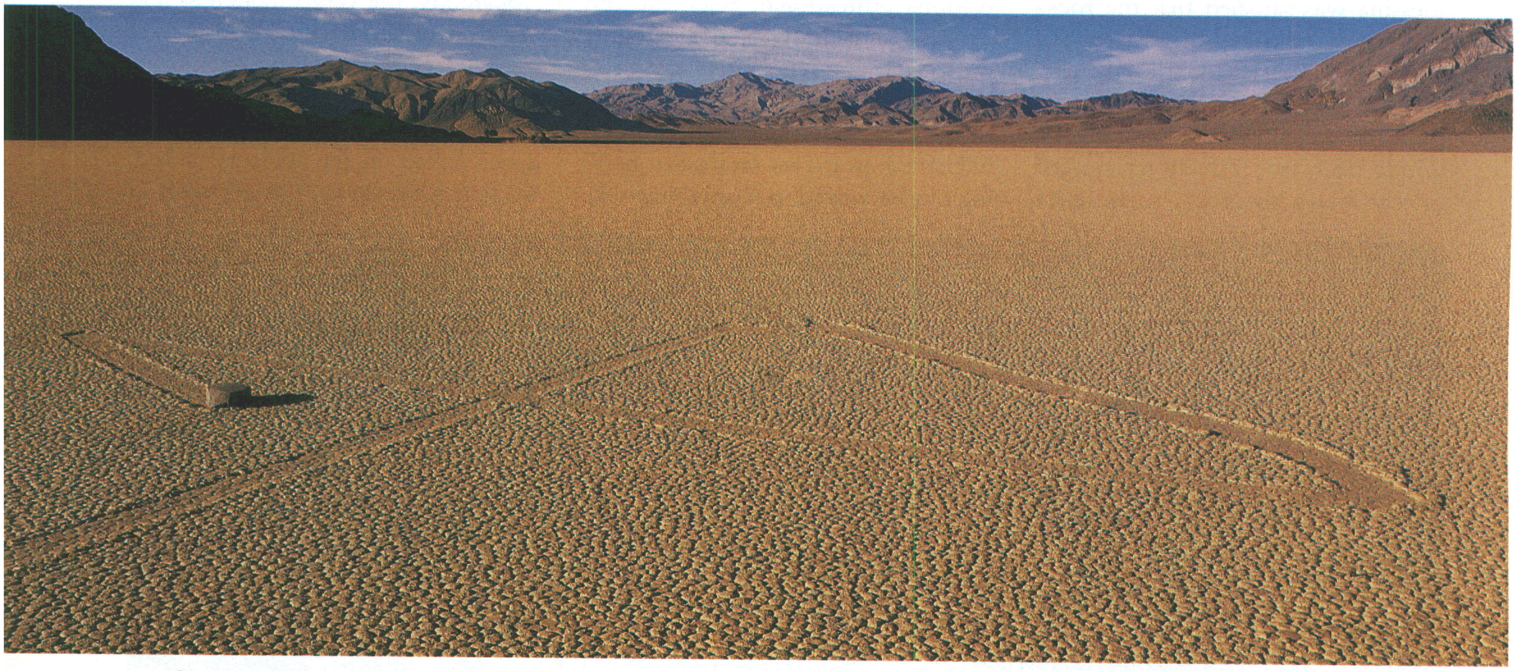


JIM STIMSON

Flooding after a heavy rain makes the ancient lakebed dark and slick. Water seems to be a key ingredient in the mystery of how the rocks slide along, leaving their grooved tracks.

national park rules, at least not in the naked desert. On one occasion, he apprehended a man who had been driving on the playa, insisting he was being chased. Shown that there was only one set of tracks, the man confessed he had not taken his medication.

The Racetrack's remoteness and smooth natural runway made it attractive for drug dealers and their transactions. To this day, you can see the faint tracks of aircraft, and although regular surveillance by Dellinges and his colleagues has reduced the likelihood of it being used now as a clandestine landing strip, the rangers have to be careful. Tipped off one night that someone was taking a generator and lights up to the playa, Dellinges prepared for the worst. "It appeared to us as though they were drug dealers," he said, but as he and another ranger sneaked closer, they were surprised to see the Grandstand illuminated by hundreds of tiny lights flickering on and off. "The whole place lit up like a Christmas tree. They were all drunk, but just normal kind of folks," says Dellinges. He sobered them up by having them work all night to remove the lights and wires, and sent them on their way. Racetrack Playa is an affecting place, as Paula Messina can warrant.



A rock named Michele displays a definite wanderlust, leaving a constantly changing path across the playa. Converging winds probably influenced the eccentric movement.

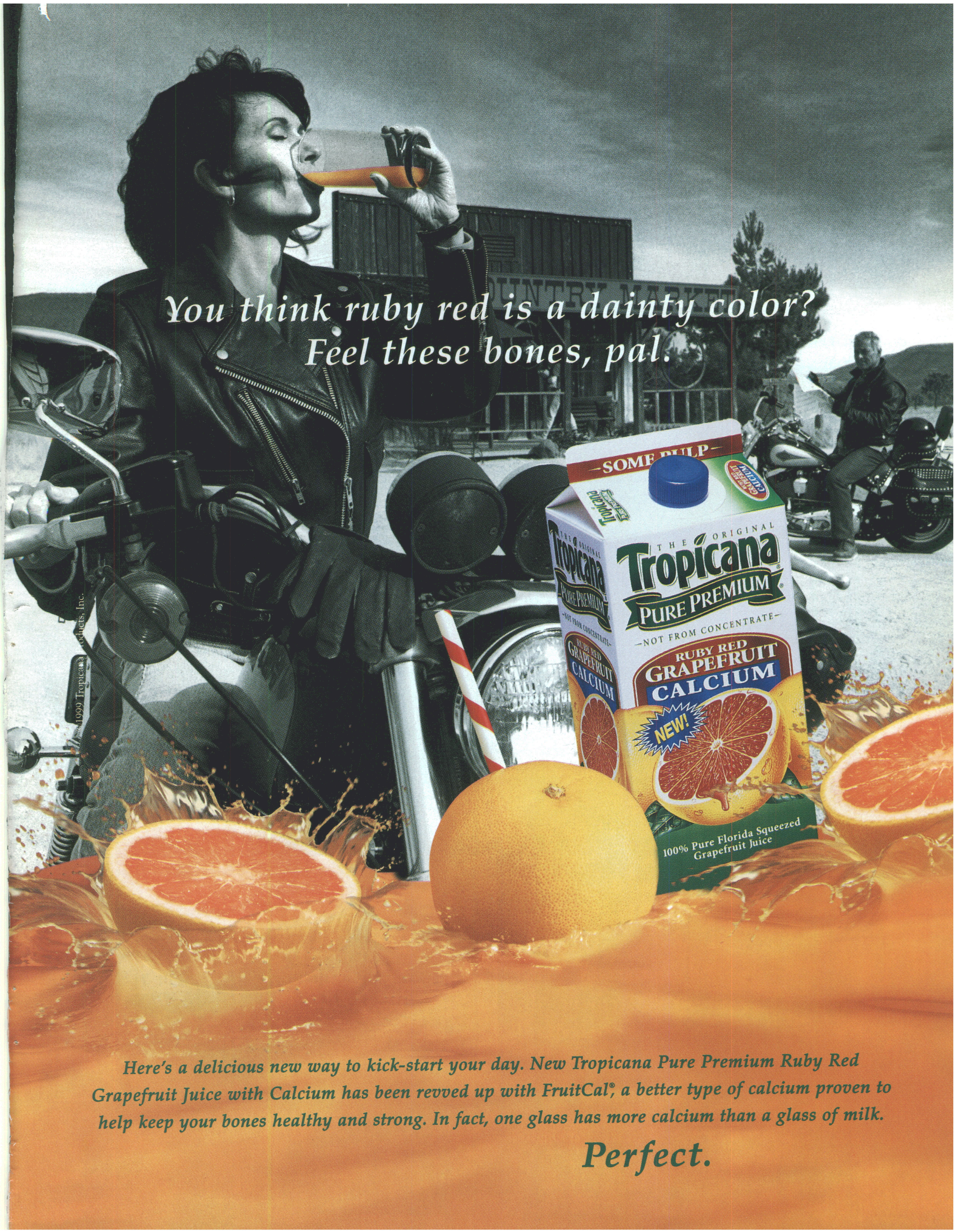
RICHARD SISK/PANORAMICIMAGES

"My first glimpse was one of those pivotal moments. It was so unlike anything I had ever seen before," she says. "You come around the bend in the road and see this perfectly flat area with a mountain sticking up out of its north end. It just looks so beautiful." She was instantly captivated.

Both Reid and Messina plan to continue their research, for the Racetrack draws them. "My students and I love going out there so much that we are going back to figure out the subtler parts of the process," says Reid. And Messina hopes to show that the rocks can move in the summer storms, when no ice is possible. But if she isn't able to confirm what she believes, Messina won't mind. "I like the idea of sleuthing and trying to figure things out," she says. "But I prefer that something remain a mystery, for if you know too much, the work is no longer romantic."

Solving the mystery or not, she and Reid will separately take that road less traveled by. In the light of an ending day, they will leave the dark mass of the Grandstand fading into the long evening shadows. On the playa the rocks will sit, waiting for that combination of rain, slick clay and then high wind or cold that will set them moving across the Racetrack. And out of sight of human eyes on one moonless night, as Robert Sharp imagined, Pamela, Amelia, Cynthia and all the others will begin the second or third movement in their elegant but mysterious minuet in the desert.

Robert Evans' own track took a turn to freelance writing after 25 years as a research geologist. He works from his home in California.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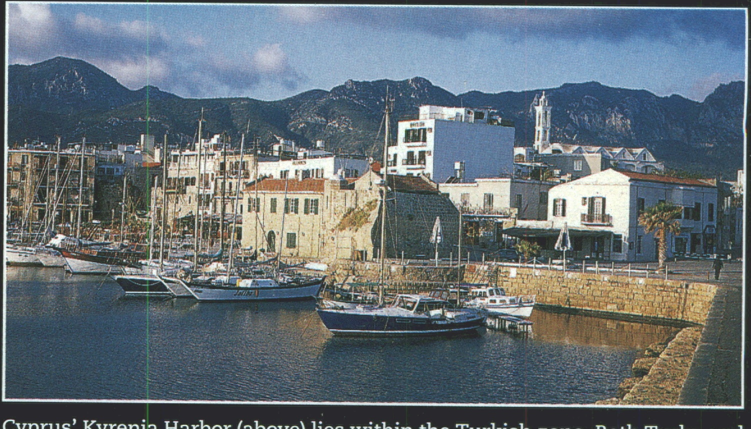
Cyprus lives in love & strife

DESPITE ETHNIC TENSIONS, TODAY'S TOURISTS CAN'T RESIST THE PAST AND PRESENT OF THIS ANCIENT MEDITERRANEAN CROSSROADS

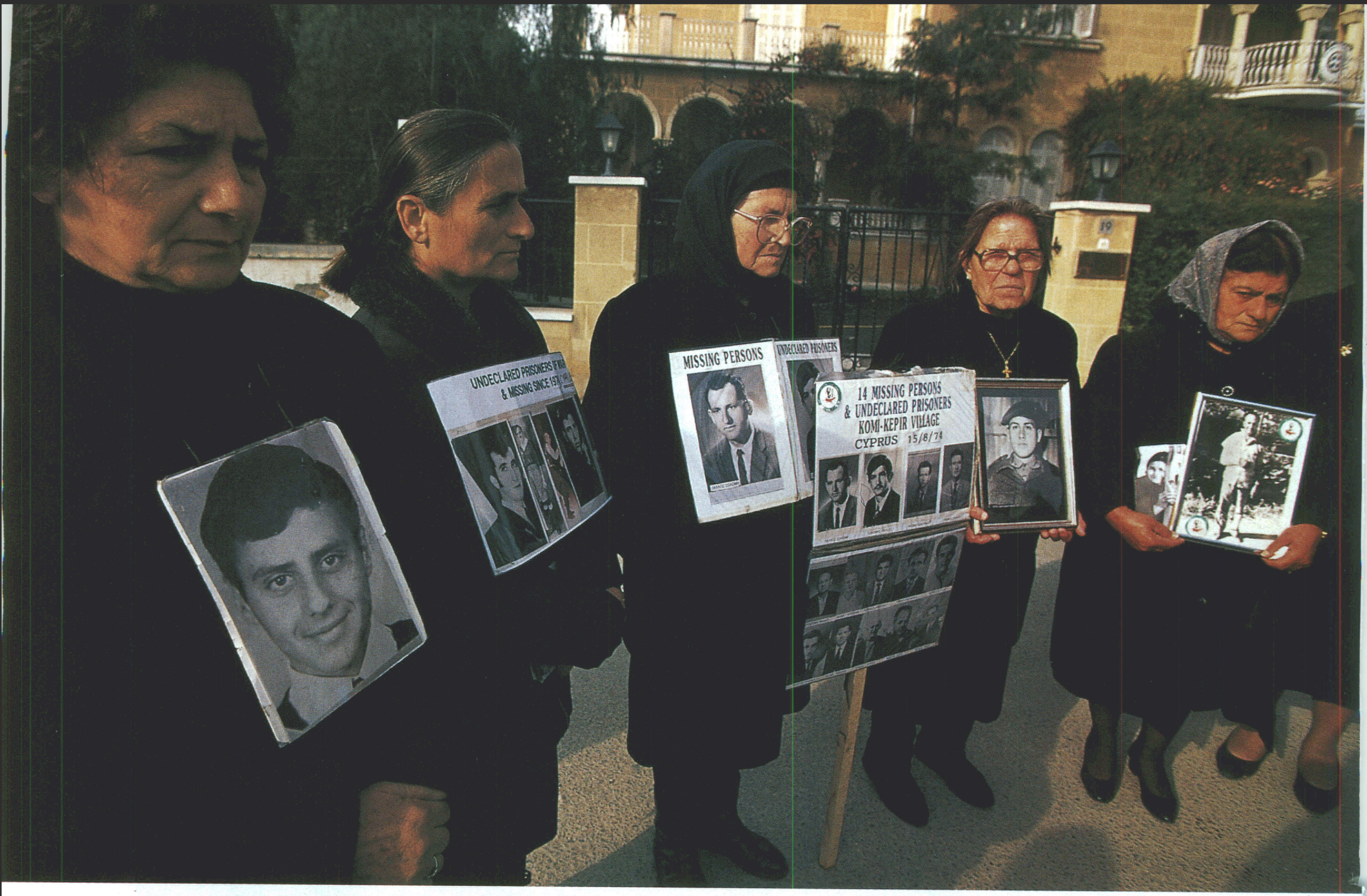
BY ROBERT WERNICK

FOR HEADLINE-READERS THE VERDANT island of Cyprus, tucked in the least-traveled corner of the Mediterranean Sea, is one of those flash points of ethnic conflict that periodically threaten the peace of the world. Almost daily, Greeks and Turks hurl insults and threats of doomsday missiles at each other across a long, thin line patrolled by a handful of United Nations troops. But for hundreds of thousands of tourists who sprawl upon its beautiful beaches in the shadow of crumbling fortifications of Greeks and crusaders, Venetians and Turks, Cyprus remains a carefree island heralded by the poet Ronsard 400 years ago, the home of "play and Graces and Love."

The modern world is used to being perplexed by the island's troubles. Yet for all but a small fraction of human history, nobody, at least nobody of any importance, paid the smallest attention to Cyprus. While bands of our ancestors were slowly working their way around the Mediterranean, the only people who bothered



Cyprus' Kyrenia Harbor (above) lies within the Turkish zone. Both Turks and Greeks, like the priest at right, enjoy the island's bounty.


UNDECLARED PRISONERS & MISSING SINCE 197
MISSING PERSONS
UNDECLARED PRISONERS
14 MISSING PERSONS & UNDECLARED PRISONERS KOMI-KEPIR VILLAGE CYPRUS 15/8/74

Greek women hold pictures of relatives missing since the Turkish occupation of northern Cyprus. Right: Turkish Cypriots demonstrate near the UN-monitored buffer zone.

to make the 50-mile voyage across dangerous waters from Syria or Asia Minor were some hardy hunters of the ninth millennium B.C. who bedded down in the caves of the south shore long enough to exterminate the dwarf hippopotamuses who had got there before them. Then they paddled back to wherever it was they had come from. All was quiet thereafter for another 2,000 years or so, when immigrants began to arrive, farmers and goatherds, who for centuries thereafter lived peacefully and in relative comfort in scattered communities of well-built round stone houses. Except for a few pieces of obsidian, a mineral that does not occur naturally on the island, there is nothing to indicate that they had any contact with the outside world, where the crowded cities and expanding states of the earliest civilizations were rising in Egypt and in western Asia.

They buried their dead under the floors of their houses and surrounded them with votive offerings. Later, outdoor burials were often accompanied by little votive statues of a female figure with outstretched arms. She appears in many forms in graves and in sanctuaries all over Cyprus, naked, sometimes with arms upraised in the Cretan fashion, and sometimes covered with jewels, sometimes in childbirth. Presumably she was the fertility goddess who appears in one form or another in all the old Mediterranean cultures, the one whom the Romans later called the great Mother of the Gods, the one who caused the earth to bring forth crops and mothers to bring forth babies. She was Anat in Syria; she appears in the Bible as Ishtar the Queen of Heaven, to whom the people of Jerusalem offered incense and cakes, arousing the prophet Jeremiah to an incandescent fury.

There was one site particularly sacred to this goddess, at Paphos on the west coast of Cyprus, where she was worshiped in the form of a four-foot-high, cone-shaped, greenish-black stone untouched by human chisel. There the Mycenaean Greeks found her when they colonized the island in the 12th century B.C., and around that black stone they built the most famous temple of antiquity, one already famous in Homer's time ("While Aphrodite, laughter's darling, fled to Kypros [Cyprus] Isle and Paphos, to her meadow and altar dim with incense"*) and which attracted pilgrims from all over the civilized world. They gave the tutelary goddess of this sanctuary the name of Aphrodite, which philologists say is of Semitic origin, but the fertile Greek imagination preferred to derive it from two Greek syllables meaning "foam-born," and their poets

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* *THE ODYSSEY*, BOOK VIII, 387, TRANSLATION FROM THE GREEK BY ROBERT FITZGERALD, VINTAGE CLASSICS, 1990

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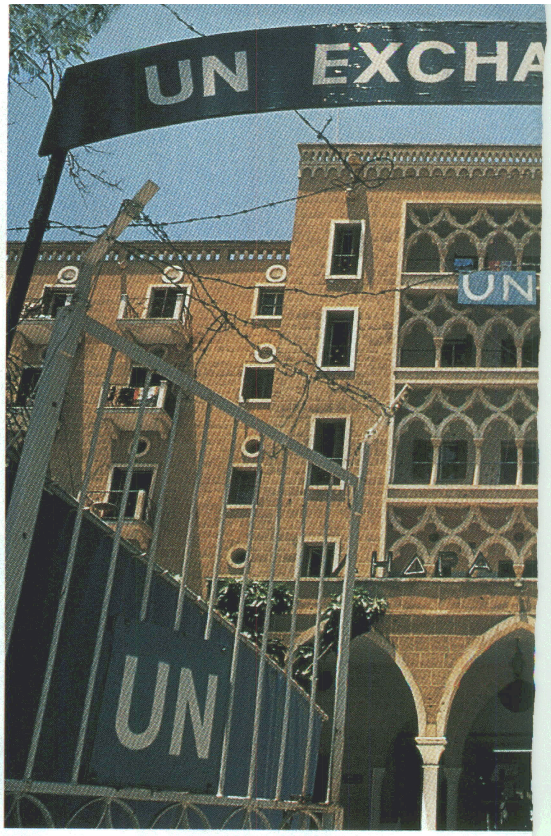
P.96 KEN GIBSON /WORLD PICTURES; P.97 EMANUELA DE SANTIS/AGENTUR ANZENBERGER; P.98 SCOTT PETERSON/GAMMA LIAISON; P.99 ABC AJANSI/SYGMA

said that the goddess, standing in a giant cockleshell, rose in naked youthful loveliness from the foam of waves crashing against a tall jagged rock that still stands in the sea close to the port of Paphos. She was worshiped on Cyprus as the goddess of love. Her temple, in the form of a temenos, or open rectangular space surrounded by porticoes, was the scene of annual festivals, with dancing and games and drunken revelry, with music and poetry contests. People came from distant lands in three continents to share in the rites and the festivities, some paying their tribute to the goddess in the form of coins dropped at the feet of young women sent by their pious families to be one-time ritual prostitutes in the service of the goddess.

The sanctuary at Paphos was so well known that none of the many poets, playwrights, philosophers and grammarians who mentioned it in their surviving works bothered to describe it, so no one today knows exactly what it looked like. When the Roman Empire became officially Christian in the fourth century A.D., the festivities had to stop. Domed white limestone churches blazing inside with mosaics and frescoes began to rise in every village on plain or mountainside, and the sanctuary of Aphrodite was abandoned, left exposed to the ravages of time, earthquakes (there is a seismic epicenter 20 miles from Aphrodite's Rock, which has over the centuries seriously damaged every town in Cyprus at least once), pirate raiders, souvenir hunters and greedy French barons, rulers of the land in the Middle Ages.

For all the church and the pirates and time could do, the image of Aphrodite (Venus, to the Romans) remained alive in the minds of some local peasant women, who to this day, it is said, leave petticoats by the old stones on certain nights of the year to ensure painless pregnancies. And in the great world outside Paphos, in the works of poets and painters, she remained ever beautiful, ever sprightly, ever young. Cyprus, her birthplace, would be remembered through the centuries, whatever sufferings might befall its inhabitants, as the Island of Love.

In this world, love is rarely far removed from strife, as the Greek mythographers hinted when they had Aphrodite start the Trojan War by easing the way for the Trojan prince Paris to run off with the giddy Helen, queen of Sparta, or when they had Aphrodite herself in an adulterous affair with Ares (the Roman Mars), the god of war, caught by her husband, Hephaestus (Vulcan), in the full glare of publicity on Mount Olympus. If the Cypriots



UN patrols (above), the old Ledra Palace Hotel (right), and Nicosia's airport (far right), derelict since 1974, reflect Cyprus' ethnic tensions.

SCOTT PETERSON/GAMMA LIAISON

could keep their queen Aphrodite in more than regal splendor, in a temple glittering with gold and jewels and scented with precious perfumes, it was because they were rich, and it was war and its need for weapons that made Cyprus rich.

The island contained immense deposits of copper, a word derived in most languages from the word "Cyprus" (though some say "Cyprus" is derived from a primitive word meaning copper). Sometime around the turn of the third millennium B.C., clever smiths in different parts of the world found that if copper was mixed with small quantities of tin, it would make bronze, a discovery that was to change human life as much as gunpowder or the printing press or atomic fission was to do in a future age. For bronze made possible war as we know it.

Bronze was expensive because the tin needed to make it was found only in a few places. In the new world of the Bronze Age, kings needed ever more complex organizations and trading ships that could go to the ends of the earth—to Cornwall in Britain, for instance—to obtain tin so that they could create panzer divisions of bronze-armored men with bronze swords in bronze-armored chariots with which to conquer their neighbors. The appetite of the new empires was insatiable: several million tons of slag from the ancient copper mines lie scattered around Cyprus.

In this new age the quiet pastoral life of the primitive Cypriots was abruptly changed. From all directions strangers came, at first to buy copper, then to seize the copper mines and the seaports, then to organize the island as a base for other conquests and as a central staging area for international commerce.

Cretans and Assyrians, Phoenicians and Egyptians, Persians, Greeks, Romans and Byzantines, Arabs and crusaders, Genoese and Venetians, Turks and British, all exploited the island. There are traces everywhere. You can hardly dig anywhere on the island without finding an ancient bronze dagger or horse-blinker, a wine jar or a pouch full of coins buried by someone fleeing his home at the news of the latest invasion, who never came back.

It was the Greeks who made the most lasting impression. Coming first as an invading aristocracy in about the 12th century B.C., when their homelands were overrun by barbarian invasions, they gradually imposed their language and their culture, and the majority of Cypriots have considered themselves Greek ever after. Since the fourth century A.D., they have been devotedly attached to the Greek Orthodox Church. The leader of the church was recognized as the Ethnarch, the sole representative of the people, with greater powers than other archbishops.

Even as Roman rule followed Greek, and Byzantines followed Romans, and crusaders followed the Byzantines, the old goddess of love never lost her rights on the island. She has turned up with regularity and vivacity to affect the course of history in both pagan and Christian times. Cleopatra VII, the youthful queen of Egypt, charmed both Julius Caesar and Mark Antony into giving her all of Cyprus as a token of their affection. When the fair Berengaria, fiancée of Richard the Lion Hearted, king of England, was treated discourteously by the Byzantine governor

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EXCHANGE POINT

CYPRUS AIRWAYS

RAPHAEL GAILLARDE/GAMMA LIAISON; SCOTT PETERSON/GAMMA LIAISON

of Cyprus in A.D. 1191, Richard took time off from the Third Crusade to land on the southern coast, marry Berengaria, chase the Byzantines out of the island, loot their treasury, and finally sell the throne of Cyprus for 100,000 pieces of gold to the Knights Templar. When they didn't pay, Cyprus ended up in the hands of Guy de Lusignan, a French crusader who was king of Jerusalem. The Lusignan family would rule the island for the next 300 years.

There was another golden age after the crusaders were driven from Syria and Palestine in the 13th century, and Cyprus became the last outpost of Christendom in the Middle East. The first wine in history to carry a recognized "appellation of origin" may well have been the Commandaria, made by the Knights of St. John of Jerusalem at their headquarters (Commandery) near Limassol.

By the mid-15th century, the growing power of the Ottoman Turks was a threat to the whole Western world, which looked anxiously to Cyprus to hold out. In desperate need of money, the king of Cyprus married a rich Venetian beauty, Caterina Cornaro. He died, perhaps at the hands of the Venetians, shortly afterward, and Caterina was bullied into handing her kingdom over to the Serene Republic of Venice.

Thus it was the Venetians who waged the last great battle ever fought in Cyprus, one that was followed with excitement and apprehension by everyone in Europe. (There is an echo of it in Shakespeare: his Othello gained fame as a Venetian commander fighting the Turks in Cyprus.) In 1571 the Turks finally won, capturing the city of Famagusta. Fewer than 10,000 men, under Capt. Marcantonio Bragadin, held out for almost 11 months against a Turkish army of more than 200,000. When the last few defenders gave up, they were massacred by the Turkish general, humiliated by having suffered 80,000 casualties. He had Bragadin tortured for two weeks, then flayed him alive, stuffed the skin with straw and sent it to stand as a trophy in the palace of the sultan.

There were shock waves all through Europe, where it was felt one of the decisive battles of the world had been fought. But neither the sultan of Ottoman Turkey, Selim the Sot, nor the Europeans were aware that times had changed, and that neither Cyprus nor the Venetian Republic, nor the great Ottoman Empire counted for very much anymore. The opening up of a global economy by Portuguese mariners, followed by the English and everyone else, had shifted world trade to the oceans. The eastern Mediterranean, after 3,500 years of frenzied activity, had become a backwater.

For the next 400 years, Cyprus would be far from the world's attention. The Ottoman Turks took so little interest in the island they had conquered with such heavy losses that they did not bother to maintain an adequate garrison. There were a few revolts, some by Turks objecting to having to pay taxes, some by Greeks aspiring to freedom. In 1878, partly to protect their empire's imperial sea route to India, the British took over the island and later made it a colony. They gave it an efficient administration, good roads and schools, and got rid of the locusts (previous rulers had been reluctant to do so because locusts were considered a divine punishment, which it would be sacri-

Despite strife, relics of antiquity like St. Hilarion castle (above) and the Sanctuary of Apollo Hylates (right) bring many tourists to Cyprus.

WERNER OTTO/TONY STONE IMAGES

legious to interrupt). But the island remained a poor and stagnant world of lethargic villages.

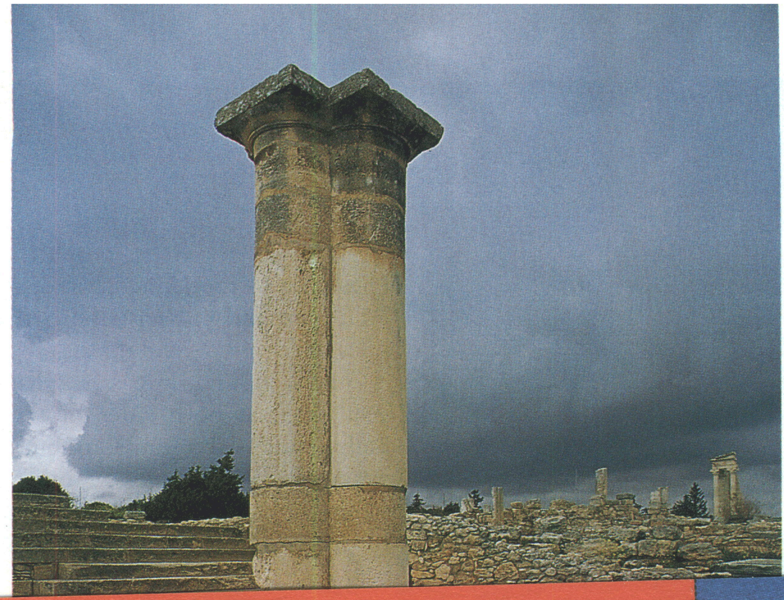
Suddenly, in the middle of the 20th century, everything changed. Cyprus was back into the headlines as a result of one of those intractable ethnic rivalries that periodically have shocked the world with their outbursts of mutual slaughter. In the 1820s, the Greek mainland had won independence from the Ottoman Turkish Empire, and all the surrounding islands began dreaming of *enosis*, union, with Greece. By the end of World War II, all except Cyprus had done so. With strikes and demonstrations, Greek Cypriots called for enosis. In the 1950s, a guerrilla war began with arms smuggled in from the mainland. It was a holy cause, supported and often led by the hierarchy of the Greek Orthodox Church.

The British saw Cyprus as a place too strategically important to be left solely in the hands of Cypriots. The Turks saw it as a potential enemy base near their southern shore; they were concerned also about the sizable Turkish minority (19 percent of the population) on the island, who would likely become a very small minority of second-class citizens if they were absorbed into an expanded Greece.

Though separated by language and religion and historical traditions, on the island Greeks and Turks had been living on reasonably good terms, working side by side, eating and drinking together, though almost never intermarrying. There were Turkish quarters in all the cities, Turkish villages checkerboarded throughout the island. Each side blamed the other for starting the sporadic violence that in the 1950s turned deadly.

The Greek community, led by Archbishop Makarios, swore to fight for enosis and only enosis, but after long and difficult negotiations between London, Athens and Ankara, at last, in 1960, they accepted a painful compromise. Cyprus would become an independent republic, with Makarios as its first president, but with a constitution that provided elaborate protections for the rights of the Turkish minority.

Even so, fighting broke out again in 1963 and in 1967, which resulted in most of the Turkish population being holed up in enclaves scattered around the country. For almost a decade an uneasy peace reigned. Then in 1974,



RAINER K. LAMPINE

The buffer zone still cuts all the way across the island, running through the middle of the capital city of Nicosia—where it is known as the Green Line—the way the wall used to run through Berlin. It has put an end to serious violence between the communities. It has also cut them off completely from each other.

Greeks and Turks who used to live and work side by side all over the island are now

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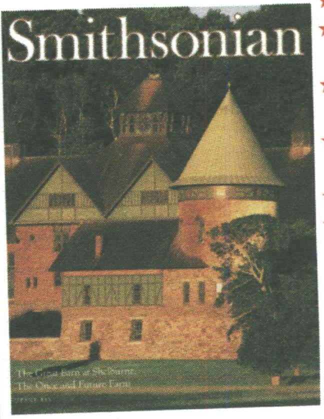

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something like a quarter of a million people (more than a third of the population) being expelled from their homes with whatever they could carry. The Turkish zone has since proclaimed itself the independent Turkish Republic of North Cyprus, recognized by no nation in the world but Turkey.

Cyprus once ruled by Byzantine emperors and Ottoman sultans. It was a network of hundreds of little villages, huddled around domed churches or the minarets of their mosques, communities of peasants bound economically and emotionally to little plots of land that had belonged to their forebears as long as anyone had kept track, the places where they were born and where they would die.

The bitter memories will not go away. "I was chased from my village with all my family and friends and neighbors by the tanks and planes of the Turkish Army in 1974," says a man in his comfortable office in Greek Nicosia. "Every chance I get, I go to what used to be our international airport and is now an abandoned no-man's-land, and I get out a spyglass and stand for hours looking on what used to be my house and my trees and my flowers, with immigrants from mainland Turkey now bustling about them in strange costumes, in a village on a street to which they have now given Turkish names."

"I was in school in London," says a man in his comfortable office in Turkish Nicosia, "when the Greeks started killing our people in 1963 and my family was chased out of our village and subjected to constant threats and indignities. When I came back to Cyprus on vacation, I could only climb as a tourist up all the hundreds of steps to the highest level of the medieval castle of St. Hilarion on its mountaintop to get a chance to look down on our vineyards and our fruit trees and the house where I was born."

The world on which these refugees were unloaded in 1974 was totally broken. The Republic of Cyprus found itself overnight deprived of its only international airport, its chief seaport, its best farmland and best scenery. It had almost 200,000 homeless people on its hands. The Turkish Cypriot community had its own refugees, some 40,000 of them, and in some ways it was worse off than its neighbor. Under both the Ottomans and the British, middle-class Greeks had run the lower levels of government and most of the businesses and trades. The Turks were almost entirely poor peasants, with little or no commercial or entrepreneurial traditions.

A quarter of a century later, no progress at all has been made in bringing the two sides to an understanding that might lessen the conflict. The Greeks do not recognize that there is any government at all north of the buffer zone, referring to it as an area illegally occupied by the Turkish Army, which is trying to wipe out every trace of its Greek heritage. The Turks claim that the government of the Republic of Cyprus, having torn up the constitution of 1960, is only a pretext for giving Greece two votes in international assemblies such as the United Nations. Politicians and publicists on both sides trade insults—and threats.

Archbishop Makarios III was elected as the first president of the Republic of Cyprus in 1960.

On the ground, however, what you hear on both sides of the buffer zone is the rumble of bulldozers. For years, fueled by tourist money, a building boom has been in progress. Four-lane highways run where once there were mule paths; giant department stores and luxury hotels and banks, discos and fast-food restaurants and suburban villas with two-car garages rise where once there were carob trees and banana groves.

In barely a generation Cyprus has gone through a process of mutation that in most of Western Europe took 200 years. A poor, sluggish, Near Eastern agricultural society has become a bustling Western service economy, with its mobility, electricity, lively political debate, widespread material comfort, cellular telephones, traffic jams, gang wars and financial scandals. Grandmothers may wear traditional long black dresses; granddaughters wear jeans.

In the good old days, ambitious young people, if they wanted to break the ancestral pattern of plowing and goatherding, or sewing and clothes washing, had to go to London to get a job in a restaurant or to Oxford to get a higher education. Only a handful could. They now can find opportunity at every street corner. For the first time in its history, Cyprus has a labor shortage, and immigrants are coming not for plunder but for jobs. The villages have been emptied to provide workers for the banks, the light industry, the construction industry, the department stores, but above all for the tourist trade, which is now the mainstay of the Cypriot economy. In 1960, the year of independence from Britain, there were 25,700 foreign visitors. Last year there were more than two million.

And there is every reason for them to keep coming. In its small space of 3,572 square miles, where you can drive to any point from any other in two or three hours, Cyprus packs an almost incredible amount of things worth seeing and doing. Where else in the world can you swim in Aphrodite's own waves in the morning, golf at noon, drive up through hillsides aflame with anemone and cyclamen and on up winding forested mountain roads to schuss down two brand-new ski slopes in the afternoon? Where else can you be bounced through the centuries so giddily,

BRIAN SEED (2)

where some 300 villages have Byzantine churches, alight within with the fervent colors of mosaics, frescoes, icons dating from the sixth century A.D. to the present day; where the next turn in the road may show the tomb of the Prophet Mohammed's aunt or a Roman bathhouse or a prehistoric burial site or a Venetian fort or the great medieval cathedrals of Nicosia and Famagusta (both turned to mosques at the time of the Turkish conquest) or crusader castles towering above towering cliffs; or the empty abbey of Bellapaïs (Abbaye de la Paix, "abbey of peace" as it was called by the Frenchmen who built it), a jewel of Gothic architecture; or the British governor's summerhouse in a mountain glen built by a work gang headed by 19th-century French adventurer and poet Arthur Rimbaud.

Little fishing villages have turned into lines of luxury beach resorts; old bazaars have been crowded out by laundromats, fast-food restaurants, casinos. As the great new highway from Nicosia turns right toward Famagusta, a minaret on one side faces the Crazy Girl Nightclub on the other.

There is much shaking of heads among some of the older folk, just as there was 2,000 years ago when moralistic Greek and Roman poets denounced the Cyprian enthusiasm for what we would today call conspicuous consumption. Sitting in air-conditioned offices with a McDonald's going up across the street, or in what used to be an isolated fisherman's house now surrounded by saunas and discos, they lament the passing of the old, time-honored ways.

The Cypriots themselves take all this good fortune with the same good-natured, laid-back ease as they took the picturesque poverty of their past. They are, after all, the same people as those who once danced and frolicked in honor of the lighthearted, fun-loving goddess of love, Aphrodite. And she herself would be pleased to see all those thousands of her modern-day devotees sprawled out next to naked on her beaches, or plunging into the very Mediterranean foam that gave her birth.

An easygoing openness is among the oldest of Cypriot traditions. Almost 2,000 years ago a rich man building a house in the Roman city of Nea-Paphos set a standard for Cypriot hospitality. He inscribed in mosaic on the floor, just inside the grand entrance, the Greek word for "Welcome." But there was a less grand door to the room, and he did not want anyone coming through this door to feel left out, so he had another mosaic message put there, which read, "You too."

The day when the leaders of the two embattled communities will be able to say "You too" across the Green Line at the Ledra Palace will be the day when the Cyprus problem has a chance of being solved. ♜

This is the author's 75th article for SMITHSONIAN. *He most recently wrote about Chief Justice John Marshall (November 1998).*

Near the Cypriot port of Paphos stands the rock, Petra tou Romiou, where the "foam-born" goddess of love and beauty, Aphrodite, is said to have emerged from the sea.

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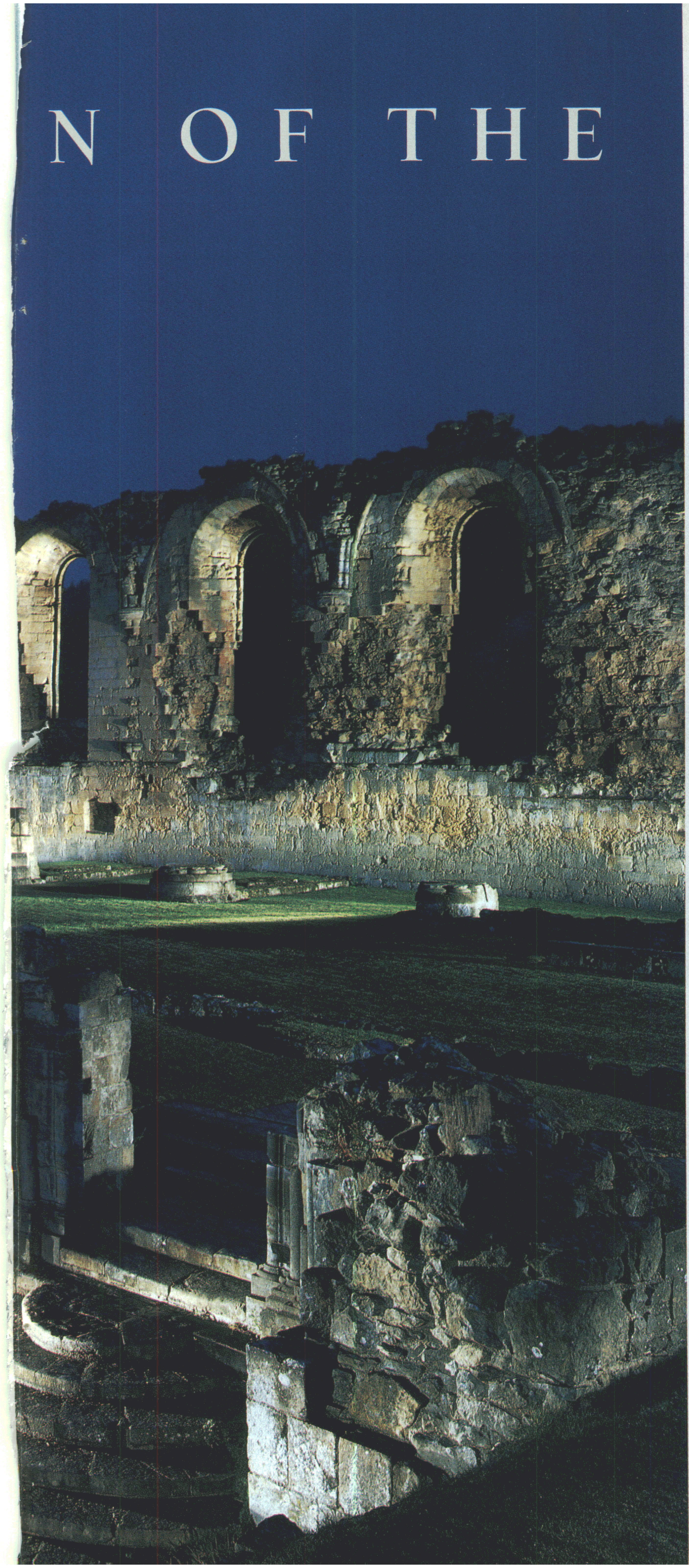
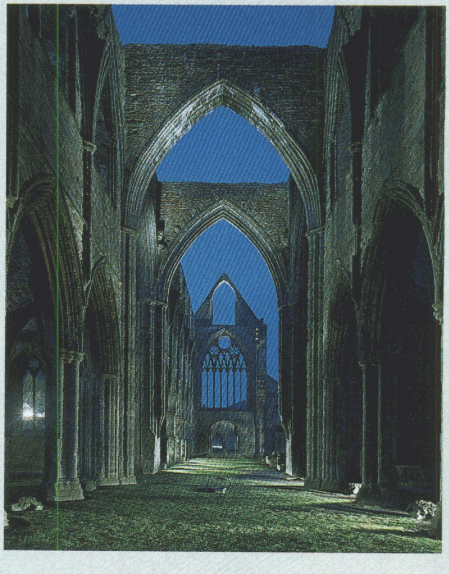


PHOTOGRAPHS BY BERTHOLD STEINHILBER

ACROSS THE FACE OF ENGLAND AND WALES, ecclesiastical ruins lie scattered like dominoes, toppled in a power struggle between church and state. To obtain a divorce from Catherine of Aragon, Henry VIII broke with Rome and in 1534 declared himself "Supreme Head of the Church of England." Literally dismantling the opposition, while replenishing bankrupt royal coffers, between 1536 and 1540 Henry's agents seized several hundred monasteries and convents, systematically desecrating and plundering the properties in the name of the king. Most have been abandoned ever since; parts of others survive as parish churches. At the hands of photographer Berthold Steinhilber, the once-magnificent buildings are reborn in ghostly grandeur through a technique called "light painting." After studying a structure in the daytime, Steinhilber sets up his field camera. Just before dark, the "blue hour," he calls it, he opens the shutter. Then, carrying a single light powered by a car battery, he walks from choir to nave to steps and so on, illuminating each separately. The exposure time can be more than two hours, depending on the building's size. Some 40 positions were needed to make the photograph at left. As with a painting, says Steinhilber, you see only what its creator wants you to see. —*Suzanne Crawford*

At **BYLAND ABBEY**, consecrated in North Yorkshire in 1177, rise the remains of one of the largest Cistercian churches in England. Founded in 1098 by Benedictine monks who disapproved of the relaxed practices at their abbey in France, the Cistercians vowed to live in isolation, supporting themselves by manual labor. Their architecture began with similar austerity, yet by the 13th century features such as the colorful floor tiles and vast rose window at Byland betrayed the wealth and worldliness that had overtaken the order.

In 1535, royal commissions assigned to inspect the religious houses, and assess their wealth, reported on the prodigious sexual activities of the monks and nuns in the lesser houses, and alleged that relics were fabricated to coax alms from pilgrims. Faced with such accounts, which now seem clearly contrived to sway public opinion, Parliament passed the Suppression Act of 1536, dissolving houses with an annual income of less than £200. **BUILDWAS ABBEY** (top right), founded in Shropshire in 1135, and **TINTERN ABBEY** (bottom right), the first Cistercian foundation in Wales, later commemorated in a poem by Wordsworth, were among those destroyed. **CROWLAND ABBEY** (far right), in Lincolnshire, was dissolved in 1539 but might have lasted longer, had the Pilgrimage of Grace succeeded. The uprising began in 1536, fed by fears that the parish churches would be the next to fall, and numbered 40,000 rebels before a truce was struck. When the protest flared again in 1537, Henry acted decisively, executing 130 people, including several heads of religious houses.



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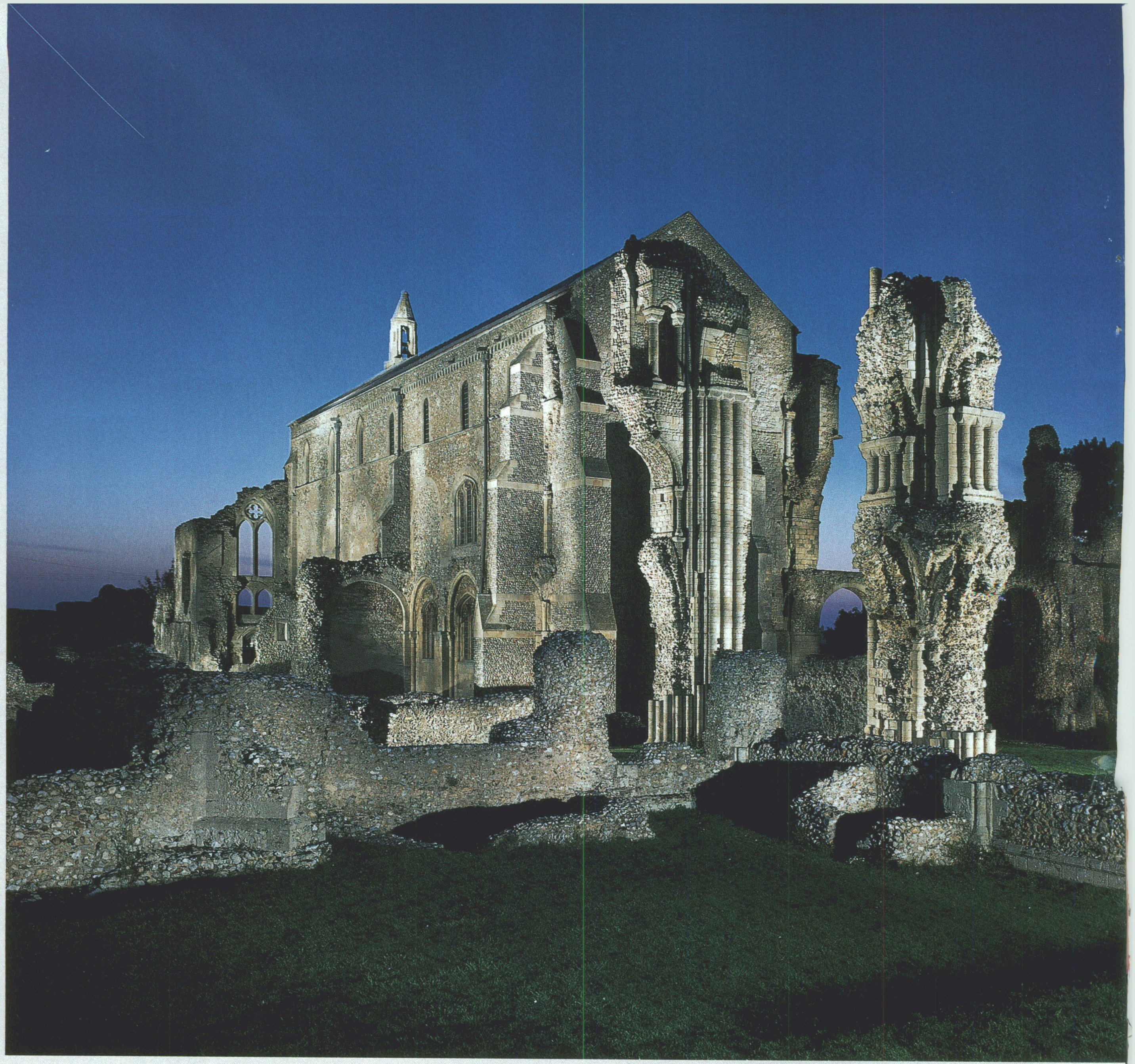
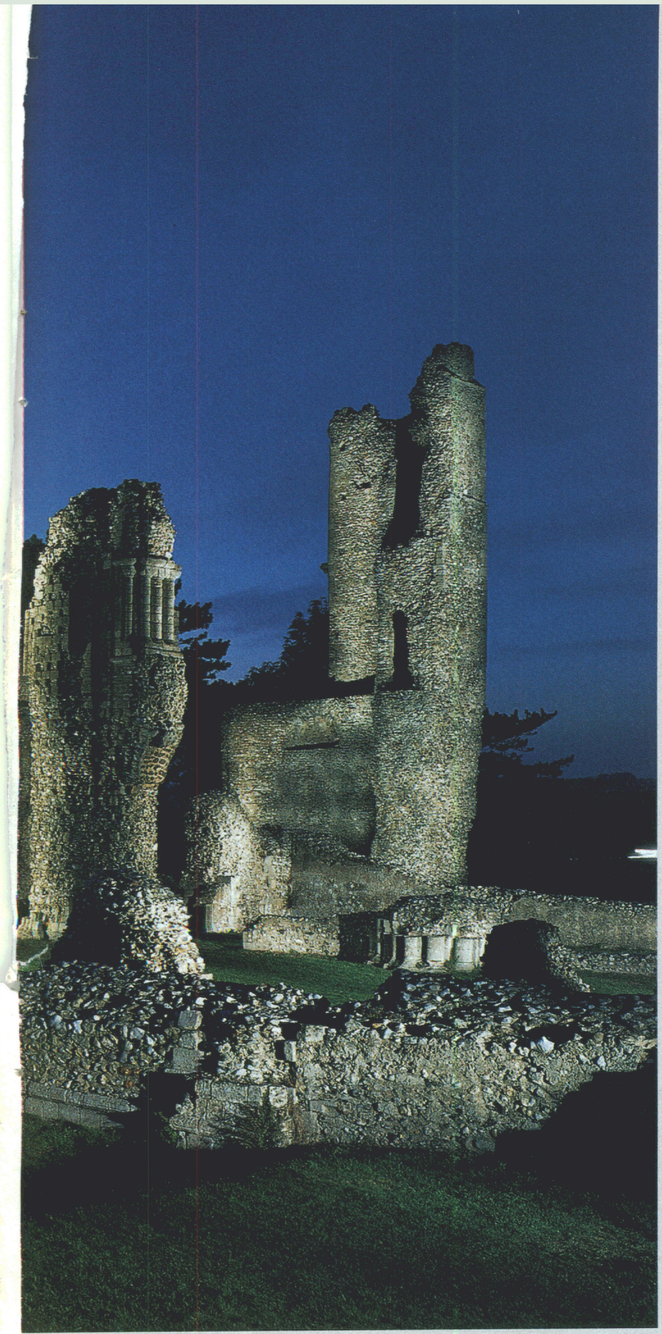
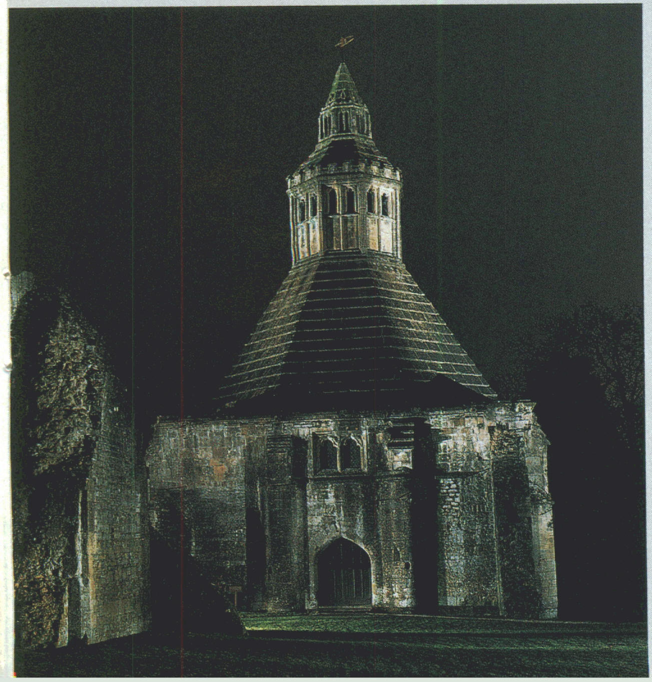
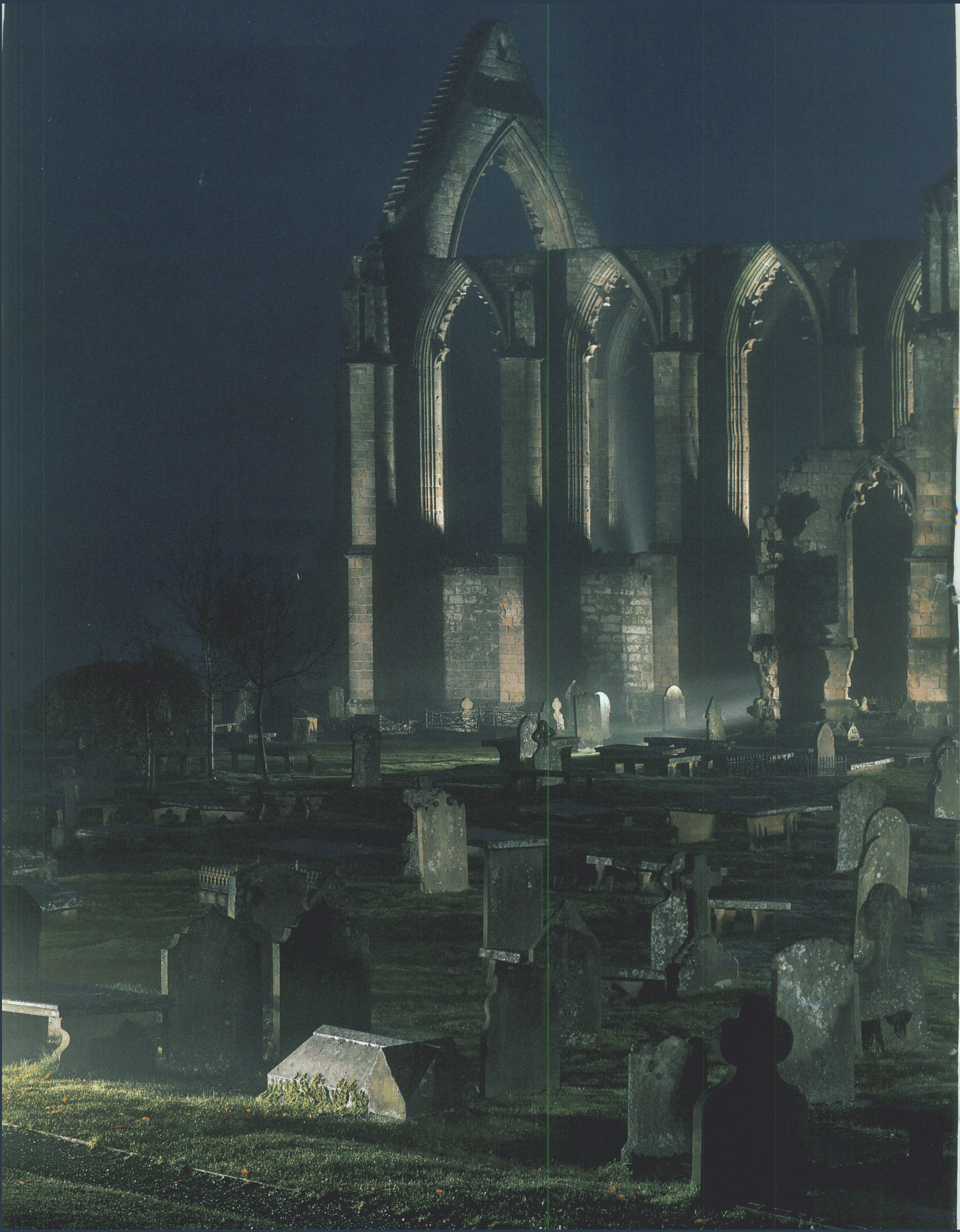


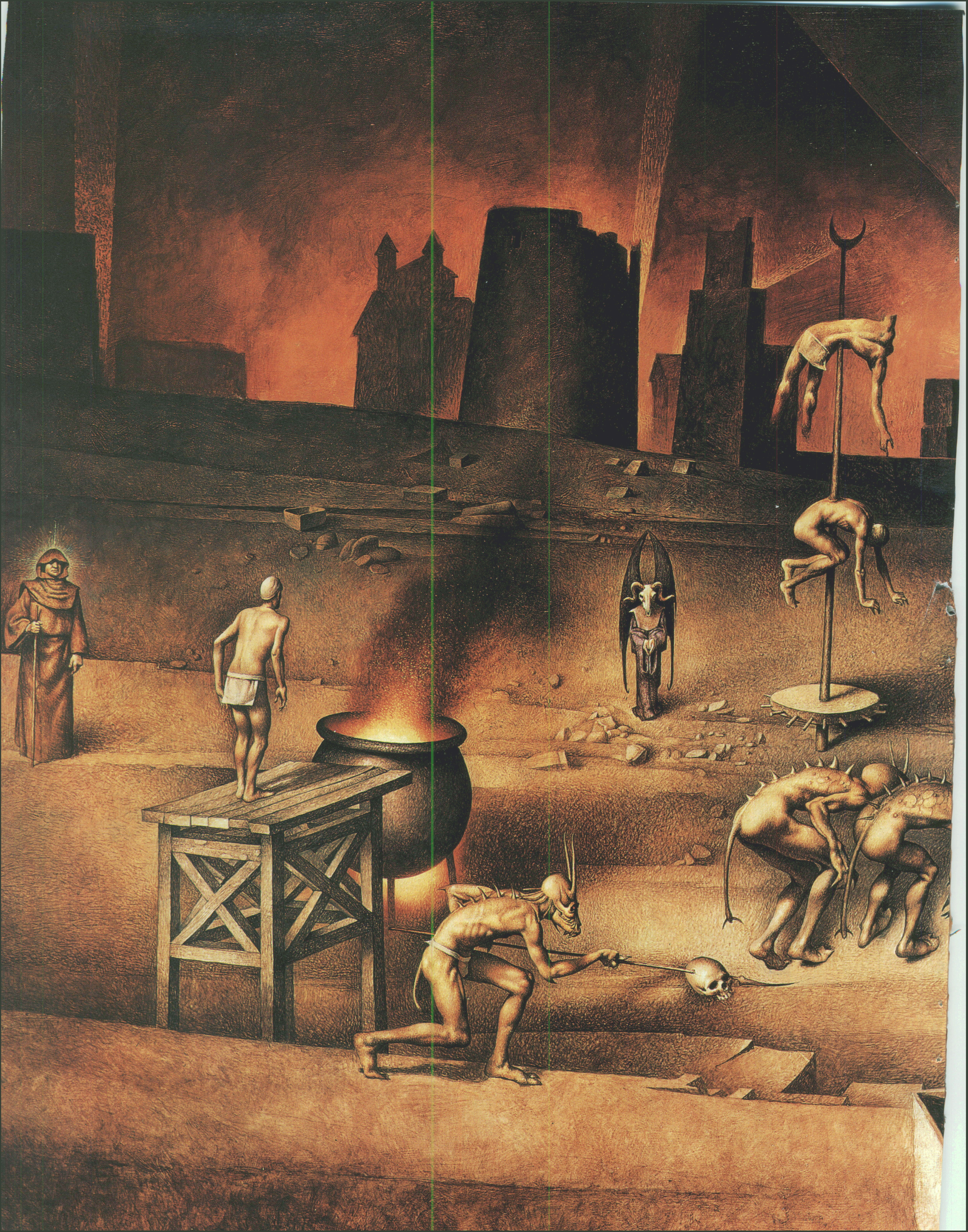
The king retained his Catholic faith and at first, it seems, aimed to consolidate his power and supply the exchequer, not to end monasticism. Monks and nuns were allowed to join other houses; lifetime pensions were given to those who left orders willingly. But soon the larger houses, such as **BINHAM PRIORY** (top left), in Norfolk, affiliated with the Benedictine abbey of St. Albans, were "persuaded" to surrender their property. Agents sent to the wealthy Benedictine monastery of **GLASTONBURY ABBEY** (top right), in Somerset, called it "the goodliest house of that sort that we have ever [seen]." By legend Britain's oldest Christian sanctuary, it was said to house the tombs of Saint Patrick of Ireland, King Arthur and Queen Guinevere. Ironically, the Holy Grail, sought by Arthur and his Knights of the Round Table, was thought to be buried nearby. Abbot Richard Whiting was hanged for treason in 1539, and the abbey later became a quarry for roadstone. The grand Abbot's Kitchen (right) was all that survived the dissolution intact.

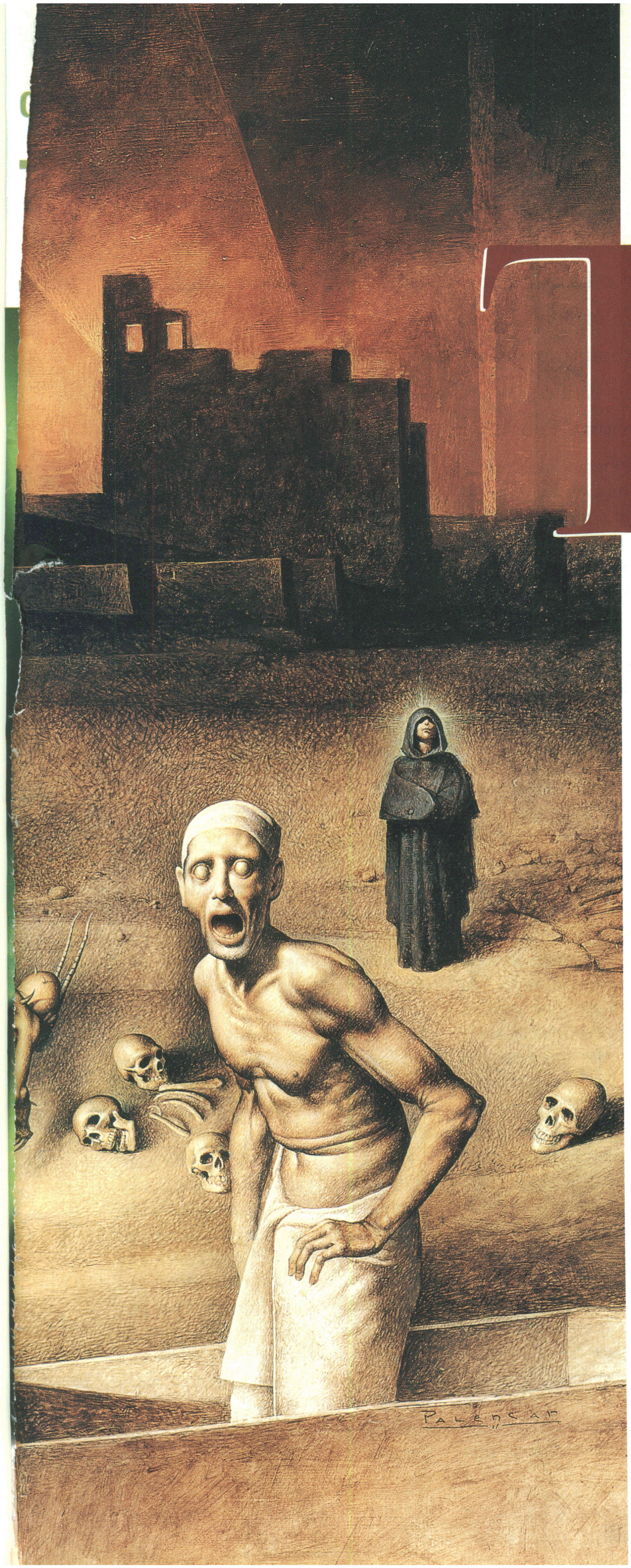




Overleaf: Henry VIII funneled much of the monastic property to the nobility and gentry, committing them to the break with the pope—and inadvertently paving the way for a Protestant Britain. **BOLTON PRIORY**, founded by the Augustinians in West Yorkshire in 1154, received income from crops, tithes, and rents from its mills and farms. Dissolved in 1539, it passed to the dukes of Devonshire, who own it still.







Terror IN A.D. 1000

WHILE WE LOOK TO THE NEW MILLENNIUM WITH BOTH TREPIDATION AND AMUSEMENT, MEDIEVAL SCHOLARS ARGUE ABOUT WHAT REALLY HAPPENED AT THIS TIME 1,000 YEARS AGO

BY PATRICIA BERNSTEIN

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POPULAR ACCOUNTS OF THE TURN OF THE LAST MILLENNIUM paint a world gone mad. Commentators tell us that medieval Europeans believed that the new year would bring the Last Judgment and the end of the world in a horrifying blaze of hellfire and damnation.

"Almost a thousand years ago," reported Liane Hansen on National Public Radio's *Weekend Edition* in 1996, "Europe was going slightly crazy. People had the terrors, and churches were crammed with penitents looking for last-minute redemption. The pious were awaiting the coming of either the Redeemer or the Devil. The reason? The millennium was ending, and apocalypse seemed right around the corner."

The conviction that the world was going to end, so the story goes, brought a continent-wide panic so intense that farmers abandoned their fields, soldiers left the battlefield, people of property gave all they owned to the church and everyone waited at the altars, to see what their fate would be.

A 1997 *U.S. News & World Report* article explained that during the year 1000, "many feared the end of the world, and huge numbers of the faithful stopped taking care of their houses, families, crops, and trades." In a recently reissued 1988 book entitled *A.D. 1000: A World on the Brink of Apocalypse,* Richard Erdoes imagines the scene at St. Peter's Basilica on the last day of the year 999: "Many did not dare to look, lying face down upon the multicolored marble floor, their arms spread out in the shape of a cross. A few were seized by holy ecstasy, waiting to be united with Christ. As the minutes passed and the fateful hour was about to strike, a deathly silence filled the venerable basilica."

As the year 2000 approaches, it has become commonplace for the media and the public to regard the late tenth century as a time of paralyzing fear, widespread panic and universal confusion. While easy to embrace, this vision of the long-distant past is more fantasy than fact. There was no general panic, no universal abandonment of life while all awaited death and judgment. Documents, royal speeches, papal bulls and chronicles of the time offer little evidence of mass hysteria. For the past 100 years, medieval historians have groaned over the public's penchant for believing that the turn of the last millennium was a time of great horror and upheaval. In fact, they've even dubbed it the myth of the "Terrors of the year 1000."

One medieval historian, however, recently has challenged the old guard with his belief that lots of millennium-related activity did occur and that the Terrors myth may, in fact, contain elements of truth. The resulting academic debate has become lively and contentious: the hypercharged word "conspiracy" has even entered the fray. At the root of this often arcane but fascinating debate is the issue of how we think about the past, the upcoming millennium and our role in shaping history.

It is true that the centuries leading up to A.D. 1000 were dark times. Waves of foreign invaders, including Magyars, Saracens and Vikings, as well as outbreaks of epidemics and famines, had carved great swaths of destruction across Europe. Europe's most glittering jewel—Rome—lay in ruins. Once a thriving city of about a million, Rome now claimed only 50,000 people, "a pale shadow of its luminous former self," writes James Reston, Jr., in *The Last Apocalypse:*

Europe at the Year 1000 A.D. Laundry hung from the windows of the once-magnificent Colosseum, now an apartment building. On the coasts of England and northern Europe, villagers lived in constant dread of the appearance of Viking long ships and their fierce occupants, who took either their gold or their lives. The horsemen of the Hungarian Magyars devastated central Europe, and the ruthless armies of Al Mansor ruled Spain with fear.

In A.D. 991, at the battle of Maldon, the Christian Anglo-Saxons of England took up arms against the heathen Danish invaders. While the Christians lost that battle, similar battles pitting Christian against pagan played out across Europe for the 40 years leading up to A.D. 999. "Something great and mighty was under way throughout the continent," Reston writes. "Europe Christianized, almost all at once." With these massive changes shaking Europe, and a long history of brutal invasions, it's not hard to imagine that ordinary folks may well have lent an ear to self-appointed prophets who roamed the countryside preaching that the end was near. No doubt some doomsayers declared that the Last Judgment would arrive 1,000 years after the birth of Jesus Christ.

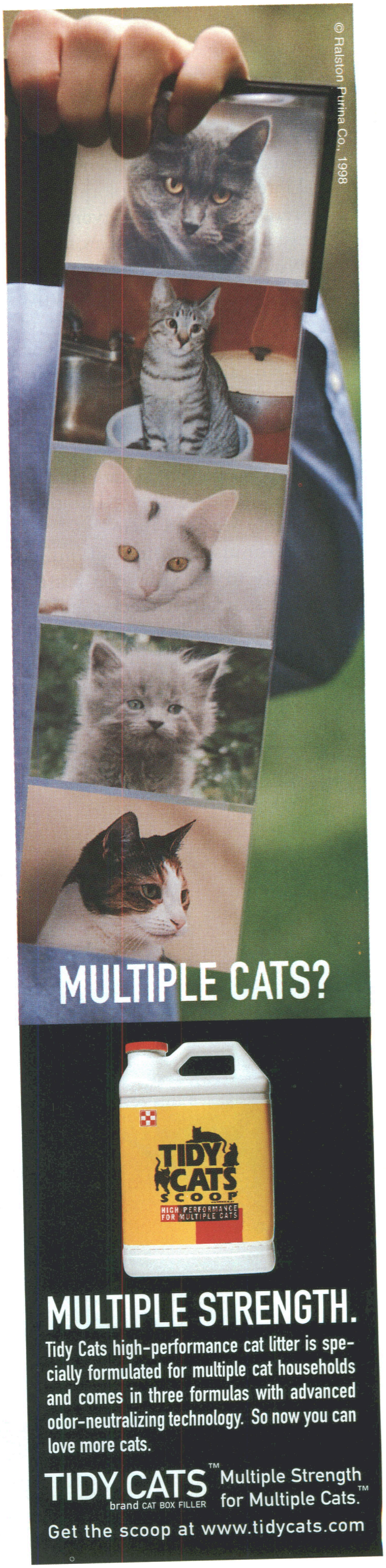
After all, Saint John darkly warned of the coming of the apocalypse in Revelation: "And I saw an angel come down from heaven, having the key of the bottomless pit and a great chain in his hand. And he laid hold the dragon, that old serpent, which is the Devil, and Satan, and bound him a thousand years, And cast him into the bottomless pit, and shut him up, and set a seal upon him, that he should deceive the nations no more, till the thousand years should be fulfilled and after that he must be loosed a little season." After all the fearful and the unbelieving and the corrupt were cast into a fiery lake, there would be "no more death, neither sorrow, nor crying, neither shall there be any pain: for the former things are passed away."

A handful of prophets, especially those whose appearance coincided with a heavenly or earthly "portent"—famine or epidemic, comet or earthquake—may have stimulated local reactions. But primary documents of the time are few. Noted medieval historian Bernard McGinn, of the University of Chicago Divinity School, points out that "medieval folk lived in a more or less constant state of apocalyptic expectation difficult to understand for most of us today." McGinn, whose views represented the gospel of all American medieval historians of this century until recently, argues that "apocalyptic traditions" occurred throughout the Middle Ages but that "it is by no means clear that fears of the end were more general ca. 1000 than at other periods in the Middle Ages." One historian declares with exasperation that he would like to "wring the neck" of the legend of the "Terrors of the year 1000."

How, then, did the tale get its start? And why has it been believed for so long? The short answer is that historians from the 16th century on found the notion of millennial activity surrounding the year 1000 territory too rich to resist. As with all historians, their interpretations reflect the shifting streams of events in their own day. Over time, these interpretations flowered into the Terrors myth.

Much of the dramatic detail of the myth comes from a brilliant French historian of the 19th century, Jules Michelet, who lived in the shadow of the French Revolution and whose work reflected the changing relationship between church and state. But the roots of the myth date back more than two centuries before Michelet to a church history prepared by Caesar Cardinal Baronius in 1605.

The 1500s witnessed waves of religious upheaval, known collectively as the Reformation. The reform of the Roman Catholic church, the birth of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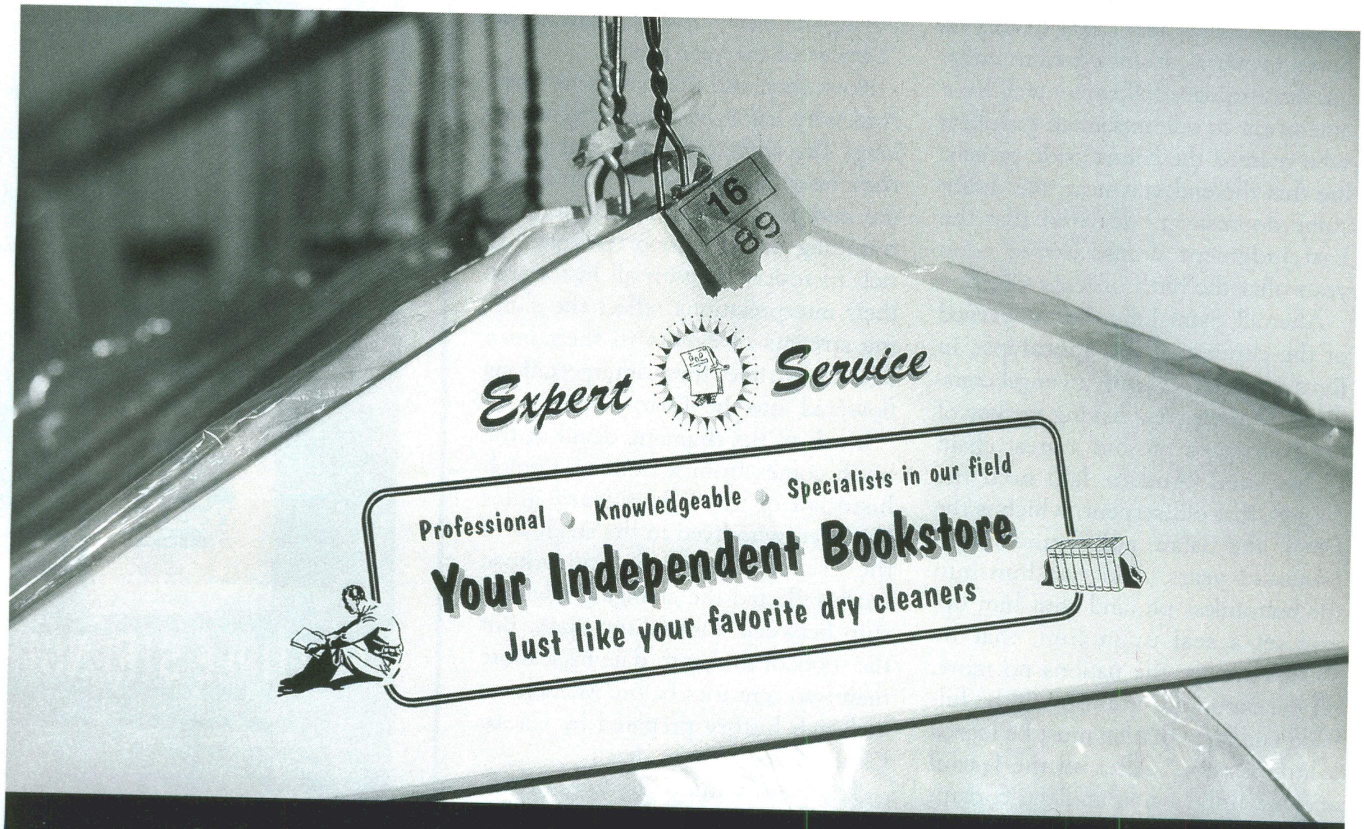
Michelet gave the idea of excessive millennial activity such narrative power that it became part of literature.

Protestantism and the freeing of religious thought also spawned millennial interest, not only coloring the interpretation of current events but the past as well. Cardinal Baronius wrote: "Now begins the first year after the year 1000. It was falsely said that this year would mark the end of the world or its imminent ruin. The man of sin, the son of perdition, the Antichrist, in a word, would soon appear. These rumors resounded from Gaul throughout the world. Almost everyone believed them: the simple were afraid of them, but the wise scarcely accepted them."

Baronius' account of millennial activity in the year 1000 passed into many standard references and sources of knowledge. In 1769, a historian and clergyman in the Church of Scotland, William Robertson, breathed more life into the legend of the Terrors in the popular *The History of the Reign of the Emperor Charles the Fifth*. For Robertson, a product of the Age of Reason, the medieval church was a cesspool of "illiberal superstition," and Europe floundered in a state of dark ignorance. It made sense to Robertson that in the decades preceding and following the turn of the first millennium, a "general consternation seized mankind; many relinquished their possessions, and, abandoning their friends and families, hurried with precipitation to the Holy Land, where they imagined that Christ would quickly appear to judge the world." Robertson's book influenced an entire generation of Europeans, most notably Jules Michelet. With passion, Michelet seized upon the idea of excessive millennial activity and gave it such reality and narrative power that it became part of literature.

The famous historian grew up in a turbulent time in French history as Emperor Napoleon took on Europe with legions of well-trained French troops. Michelet's childhood was sad and somber. Growing up in Paris in the first decade of the 1800s, he was from a family so poor that his father spent nearly a year in debtor's prison, and they had trouble staying warm in winter. "For nourishment," he wrote, "I was accustomed to such frugality that often it was sensuous for me to eat some green beans." In those early days he acquired a lifelong distaste for autocratic authority, spurred by his hatred of Napoleon, who had destroyed the fortunes of the Michelets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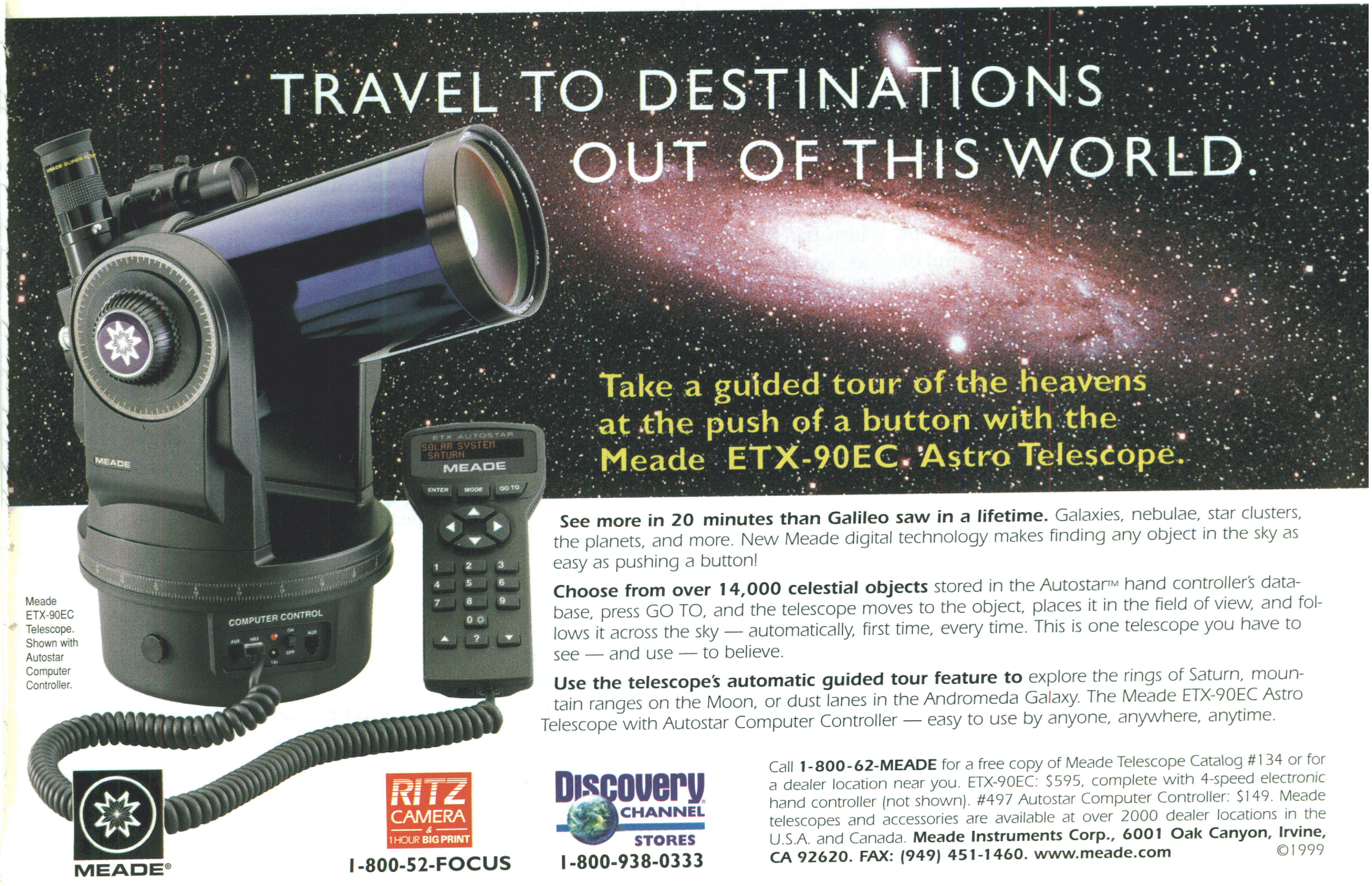
by closing down the family printing shop. Eventually, Michelet would transfer some of his hatred of authority to the church which, he believed, had let down the French people. The notion that religion inspired terror and panic seems to mirror Michelet's disappointment with the Catholic church itself.

When he became the head of the historical section of the National Archives at 32, Michelet immersed himself in original documents. As he navigated the galleries of the archives, he claimed, the "distant sufferings of so many souls, smothered in past epochs, moaned in a soft voice." By then his fanatical French nationalism, which he described as his only religion, had begun to blossom. More than anything else, this would color his interpretation of events leading up to the turn of the first millennium.

By the time he had begun research for his monumental *The History of France,* Michelet had already determined that the church and Christianity were dead. He wrote in his journal that France must take the place of God "whom we miss" and that his beloved country must fill the "incommensurable abyss left by an extinguished Christianity."

As part of this centuries-long story of the relationship between the people and the church, Michelet told his version with such unforgettable and dramatic language that it made an indelible impression not only on historians who came after him but on the popular imagination as well. "It was an universal belief in the middle ages, that the world was to end with the year 1000," he reported. "Woe on woe, ruin on ruin! . . . The captive expected [the end of the world] in the black dungeon, . . . the serf expected on the lea, . . . the monk expected in the abstinences of the cloister, in the solitary tumults of his heart, amidst temptations and lapses, remorses and strange visions, a miserable sport of the devil who gamboled cruelly round him and who, plucking aside his bed-clothes at night, whispered merrily in his ear, 'Thou art damned.'"

For Michelet, however, the story involved more than just panic and fear but also hope and peace. For the people, at least their oppressors, the damned, would receive a deserved comeuppance at the hands of Divine Justice. "It must, too, have had its charm for the imagination," he writes, "that moment when the shrill and piercing trumpet of the archangel was to ring upon the ears of tyrants. At that moment from dungeon, from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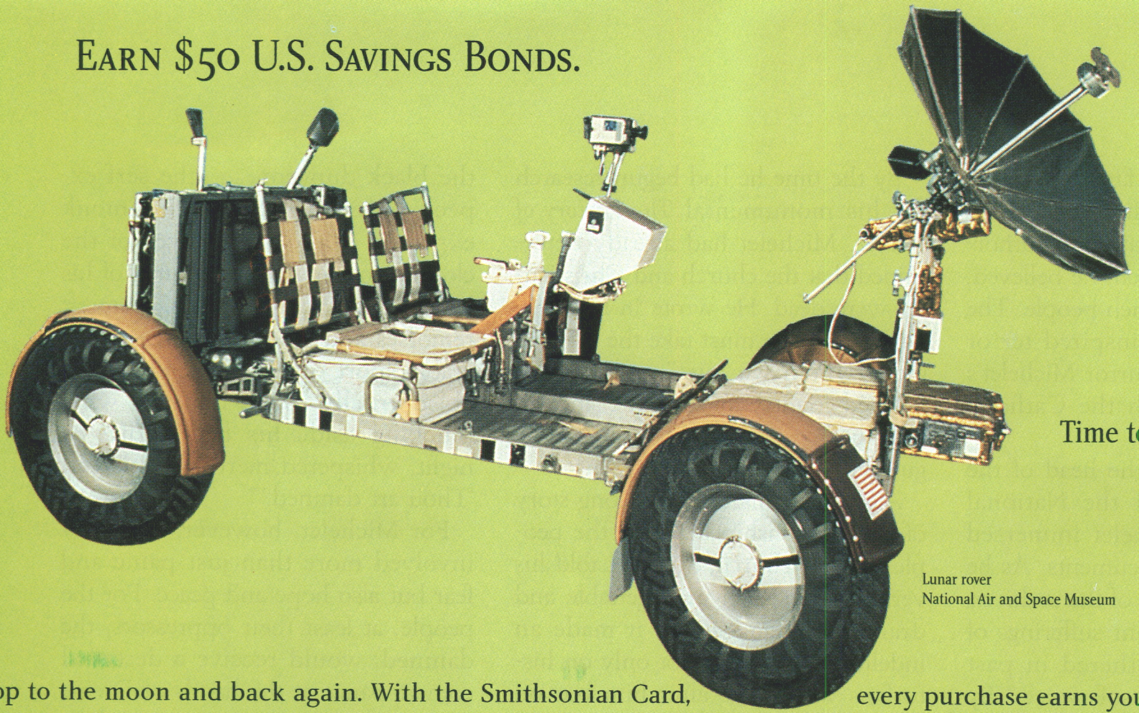

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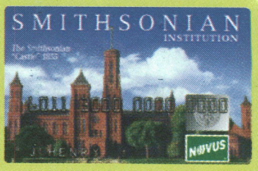

cloister, and from the field filled by the villein, a fearful burst of laughter would have risen amidst the weeping." When the world did not end in 1000, Michelet wrote that "humanity took courage." People rose up from their collective "death-struggle," full of a newfound energy that would eventually lead to the Crusades and form the roots of French nationalism.

The story of the Terrors took on an even stronger antichurch rhetoric after Michelet, reports Peter Stearns in his book *Millennium III, Century XXI*. Later French writers suggested that greedy churchmen had encouraged millennial fears deliberately so that people would give their material possessions to the church in hopes of salvation. During the 19th century, writers vied with each other in describing this period of history—each attempting to heighten the drama of the story and add more macabre details to the tales told by their predecessors. The myth of the Terrors reached full flower as it found colorful expression in poem, play and book.

By the late 19th and early 20th centuries, however, a new generation of historians loudly decried the Terrors as an apocryphal story concocted from the inflamed minds and fantasies of Michelet and his fellow Romantics. "Alas for human fallibility!" comments American historian George Lincoln Burr in 1901, smugly dispensing with the Terrors as a bad practical joke that would not fool modern historians, schooled in rigorous critical thinking and the scientific method. For nearly all of the 20th century, no one seriously challenged Burr's definitive and biting analysis. No one, that is, until Richard Landes, a medievalist in the history department and director of the Center for Millennial Studies at Boston University, who is interpreting year 1000 history with a new twist.

Landes is creating controversy by insisting that a lot of apocalyptic activity did occur around the turn of the last millennium. He is reexamining the year 1000 documents with a fresh eye. He says that if more emphasis is placed on the accounts of rumors and reports of troubling signs and natural wonders—such as famine and the appearance of comets—then one can find evidence that the people across Europe were expecting a Last Judgment scenario. He also draws attention to historical references to pilgrimages, penitential processions and peace assemblies, which he argues might have come about as a result of apocalyptic concerns among the people. At the outset Landes establishes that he is "not arguing that we should reintroduce the Romantic notion of the 'Terrors of the year 1000.'" He acknowledges that a universal panic may have never materialized. Landes aims rather to introduce the idea that apocalypticism—involving both fear and hope—did occur on a greater scale in the period surrounding the year 1000 than at other times.

Many historians, while intrigued by some of the bits of evidence that Landes has turned up, fail to swallow the argument that there was more millennial activity than meets the eye. The academic battle lines are drawn. Bernard McGinn, who has analyzed medieval apocalyptic thought for many years and is editor of the *Encyclopedia of Apocalypticism*, has commented that he thinks "a hidden millennarianism is a figment of his [Landes'] imagination."

Landes responds that "the 'anti-Terrors' school has an aggressive naïveté in its approach to the texts, indignantly dismissing the possibility that the clerics who compose our sources might be under discretionary pressure." It's a point as convincing as it is difficult to prove: holding most of the power to control what was written down, the church could effectively quiet those who wrote about millennial activity. Landes proposes that instances of millennial fever often went unrecorded because the chroniclers who wrote the history afterward knew that the world had *not*, after all, ended. In addition, he points out that the very idea of setting a date for the end of the world was forbidden by church policy, so chroniclers may have exercised great caution in writing about this matter. Landes argues that "silence is the Church party line."

The Devil appeared to Glaber as a man with a goat's beard, pinched nostrils and blubbery lips.

Of the half-dozen first-person accounts of millennial activity, none are more controversial than that of one Burgundian French monk named Rodulfus Glaber, who penned a five-volume history that speaks directly to life at the turn of the millennium. The monk with the chatty writing style has become like the witness in a controversial murder trial: it's hard to tell where the truth lies once one has discounted his obvious excitability, his instinct for the dramatic and his inclination toward fantasy and superstition. His veracity will remain in question because his testimony is ten centuries old and one of few sources that survives. The fact that Glaber wrote of his experience meeting the Devil—a man with goat's beard, pinched nostrils and blubbery lips, who appeared in a vision at the foot of his bed—has given pause to many

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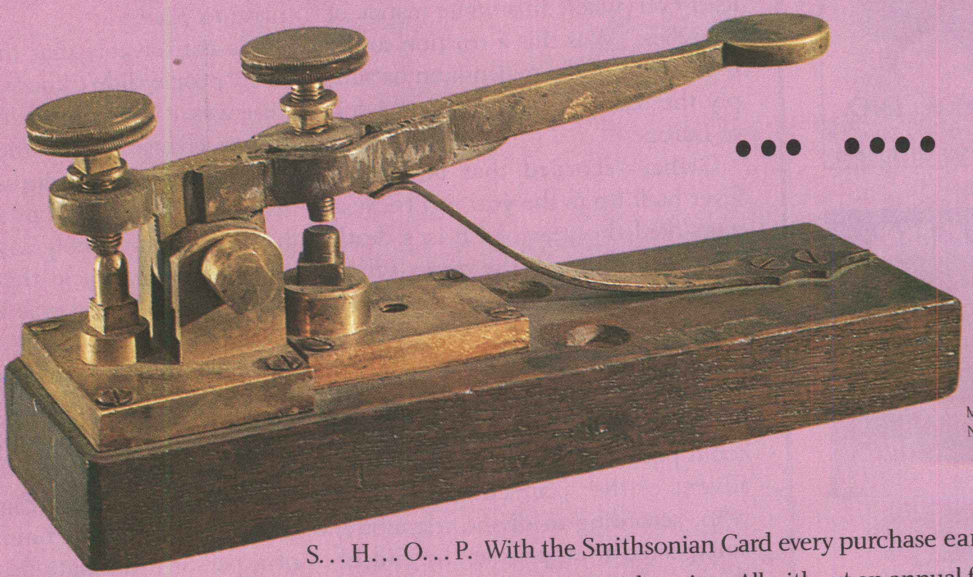

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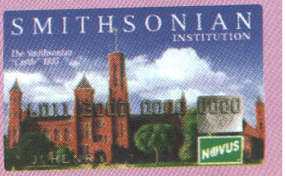


medieval historians. Bernard McGinn makes only brief mention of him in his *Visions of the End*, a collection of medieval apocalyptic texts.

To make matters worse, the monk earned a rich reputation as a troublemaker. At age 12, in the year 992, Glaber entered his first monastery. Throughout the next 50 years, as many as six monasteries, including those in Auxerre, Dijon and Bèze, and the Abbey of Cluny, would find ample reason to rid themselves of his troublesome presence. Yet his experiences traveling the French countryside between monasteries—even going as far as Italy—would give him a view of the world not available to his more cooperative, sedentary brethren. In the early 11th century he witnessed the construction of many new stone church buildings across France. These churches appeared to him as the world making a new start, “cladding itself everywhere in a white mantle of churches.” Was this a reaction to the recent turn of the millennium or simply the result of the Christianization of Europe?

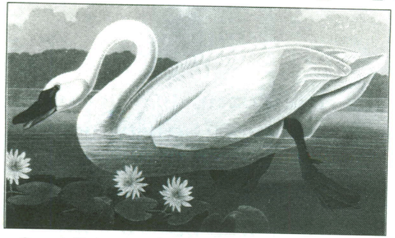
In the age of ubiquitous digital watches, it’s easy to forget that regions varied dramatically as to when they celebrated the end of the year.

Glaber recorded that millennial fever built up in the year 1033 because it marked the year of Christ’s death and resurrection, the time when many felt that judgment was at hand. Glaber told of heresy, or devil worship, among the Lombards. When famines were said to have turned men into cannibals, he wrote, “it could portend nothing other than the advent of the accursed Anti-Christ who, according to divine testimony, is expected to appear at the end of the world.” And when pilgrims flocked to Jerusalem in large numbers, Glaber wrote, “it was believed that the order of the seasons and the elements . . . had fallen into perpetual chaos, and with it had come the end of mankind.”

A critical point in the debate is the calendar issue (SMITHSONIAN, February 1999). When exactly did the millennium change over? (Complicating the question is confusion over the date of Christ’s birth.) The idea that people across Europe followed many different calendars is a strong argument against a widespread response to the millennium. In the age of ubiquitous digital watches, Greenwich mean time and the televised drop of the New Year’s ball in Times Square, it’s easy to forget that regions varied dramatically as to when they celebrated the end of one year and the beginning of the next. Some ushered in the new year on January 1, others at Christmas, on Good Friday or the day after, or on Easter. The year was different from place to place.

It’s conceivable that many unlettered people didn’t know that a new year was at hand, nor that one century was changing to another. Life was measured by the progress from one season to the next, from seedtime to harvest, from one holy day or festival to the next—a cycle that repeated again and again and was likely to go on doing so.

Richard Landes insists that it is insulting and condescending to imagine that people of the tenth century would not know or care what year it was. If the prevailing religious tradition hinted about the time and shape of a person’s ultimate destiny, then the year and date would have been of consuming interest to many. Landes cites the English monk Saint Bede the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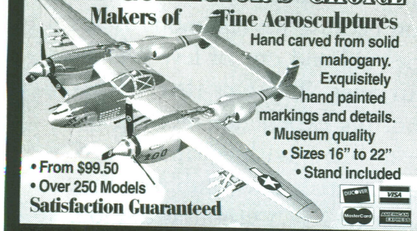
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Venerable, who complained in the year 700 that the "rustics" kept bothering him, wanting to know when the foretold end of the world would take place. They were the ones, Landes says, who eagerly anticipated the end of the world, because they believed that it would bring release from this vale of tears.

Indeed, the notion of the apocalypse lies deep in the fabric of Christianity, borrowed and adapted from Jewish traditions. The Christian reading of the Jewish bible, or the Old Testament, led them to regard themselves as the new Chosen People. For a persecuted and downtrodden minority, the idea of an apocalypse at the millennium where they would inherit a new and better world had recognizable and deep appeal. By the fifth century, however, Christianity had shed its beleaguered minority status and emerged as a powerful and dominant force throughout most of Europe in the form of the Catholic church. As Norman Cohn argues in *The Pursuit of the Millennium*, the now staid and tradition-laden church elite "had no wish to see Christians clinging to out-dated and inappropriate dreams of a new earthly Paradise."

Church doctrine forbade the assigning of a specific date to the end of the world. "It is not yours to know the times that the Father has put in his power," wrote Saint Augustine of Hippo. The church took pains to refute anyone who claimed to know exactly when the end would arrive. A person should always live, the church instructed, as if the end of Days and the Last Judgment could arrive tomorrow. Whether church doctrine could banish the appeal of the deeply rooted apocalyptic tradition among common people is difficult to say. The effect of the doctrine on written documents, however, may have been large. Landes points out that "virtually no text survived to our day that was not copied and preserved by monastic institutions whose decisions

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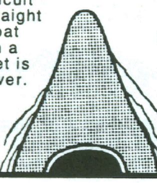
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were made long after any apocalyptic moment had passed." Landes argues that mention of apocalyptic activity would have been censored, most evidence destroyed.

In the final analysis, of course, the argument that there is an absence of critical documents and important witnesses to the events surrounding the first millennium can never be proof that fevered response did occur. The absence of this evidence makes for a negative argument, which is not enough to convict either in a court of law or in academe.

> *It remains open to debate whether the millennium caused significant activity or not. The mystery remains.*

No amount of argument among medieval scholars will answer definitively the question of what happened. It is clear that Europe was undergoing momentous changes as it Christianized. It's probably safe to assume that a massive seizure of panic did not take Europe in its grasp. It remains open to debate, however, whether the turn of the last millennium caused significant activity or not. The mystery remains, the debate continues.

Curiously, the only undisputed cases of extreme millennium-related activity, such as mass suicide, come not from the first millennium but from our own times. On March 26, 1997, in a wealthy community of San Diego, California, 39 members of the Heaven's Gate cult committed suicide so that their souls could be transported to the "Next Level" by a starship hiding behind the Hale-Bopp comet.

Perhaps it's best, then, to look at the behavior of people today for clues to how people may have reacted back then. Despite generations of scientific advance and universal public educa-

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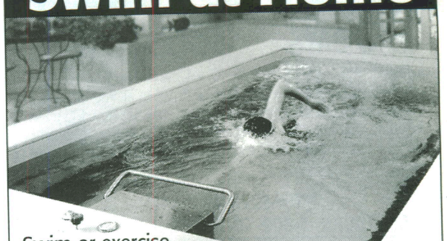
tion, millions of people in our own day believe in alien abductions, listen to channelers who claim to speak with the voices of the dead, and fear the impending approach of black helicopters representing the New World Order. Far more Americans feel vaguely unsettled, concerned that normal life will grind to a halt as computers fail to switch over to the new millennium. Some people have contemplated that the Y2K bug could drop airplanes from the sky, shut down power grids across the world, or activate nuclear missiles. Even today, the line between fantasy and fact, myth and reality, is not always clear.

Meanwhile, the legend of the Terrors, detached from the current academic debate, continues to thrive.

Meanwhile, the legend of the Terrors, detached from the current academic debate, continues to thrive because of our willingness to believe that the early Middle Ages was a time when the sun scarcely rose by day and the people languished in a benighted twilight, so different from our own enlightened time.

For posterity, Landes and his colleagues at the Center for Millennial Studies are recording the modern response to the new millennium by tracking "apocalyptic discourse" in books, chatrooms on the Internet, television and radio news programs, newsletters and newspapers. Perhaps this information will prove useful for historians at the turn of the third millennium. We can only wonder what tales the people of 2999 will tell about how *we* reacted to the change of the second millennium. ♜

Houston-based writer Patricia Bernstein reports she is not worried about the Y2K bug.



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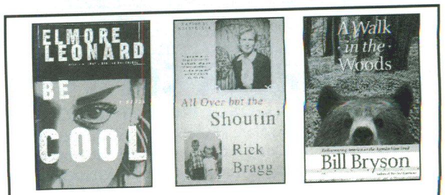

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THE LAST PAGE

Being Superstitious Can Drive You Crazy

BY KEN BUDD

TWO MINUTES WERE LEFT IN THE football game when I felt a sharp twinge in my calf. A muscle spasm. I growled and clutched my leg. The game was equally intense. My team, the Washington Redskins, led the New York Giants by a touchdown, but the Giants had the ball and were threatening to score. So I clenched my jaw, took a deep breath and did what any true Redskins fan would have done. I stayed in my recliner and refused to uncross my legs.

I refused because uncrossing them would have brought the Redskins bad luck. I had been staring at the TV set for 20 minutes with my legs crossed, and during that time the Skins had played great defense. How could I uncross them now? I couldn't. Despite the pain, I sat in the same position until we had secured the victory.

And then I felt like a dork.

I knew superstitions were silly. I realized that if extraterrestrials had knocked on my door and asked me to tell them about life on earth, I could not possibly have explained superstitions, any more than I could explain the rationale behind greeting cards for dogs or tassels on men's loafers.

> *The logical side of my brain really needs to play a more prominent role in my life.*

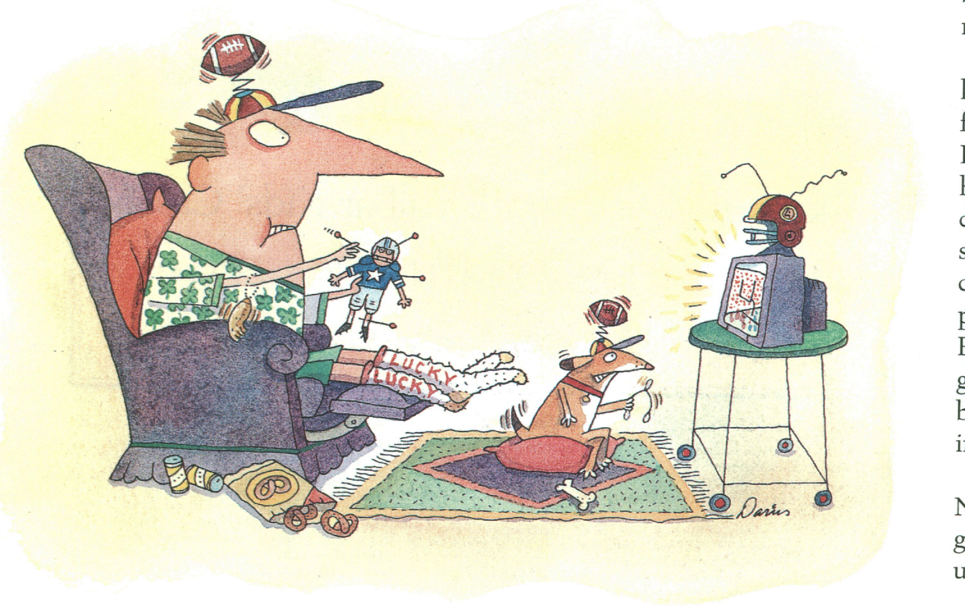
So if I understood that superstitions make no sense, have no basis in reality and cannot possibly influence the outcome of events, why did I insist on wearing lucky shoes? And lucky socks? Why did I think fruits were luckier than vegetables? When I went to basketball games at my alma mater, why did I always have to park in a lucky parking space?

The answer was simple. I acted superstitious because I really wasn't superstitious. When I wore lucky underwear, I *knew* those tattered old Jockeys weren't lucky, even though I did sort of hope they were. It was part denial, part delusion. Call it denusion, and it's why people who say they never watch television know every character on *Melrose Place*.

My own denusion ended with that muscle cramp. The logical side of my brain, which really needs to play a more prominent role in my life, declared that superstitions are stupidstitions. Michael Jordan never attributed his scoring ability to my socks. No coach ever held a press conference to talk about my shoes. Superstitions were also causing me stress. Sure, my crossed legs forced the Giants to punt, but what if I'd uncrossed them? They might have punted anyway.

It was driving me crazy. So I kicked the habit. Now whenever I feel a superstitious urge coming on, I ignore it. This hasn't been easy—I've had some weak moments at the sock drawer—but I finished the football season without experiencing another cramp. And here's the really weird part: after I swore off superstition, the Redskins won five of their next seven games, while my alma mater's basketball team had its first winning season in many years.

Now I understand how it works. Not being superstitious is what causes good luck. I think I can live with that—until my luck changes.



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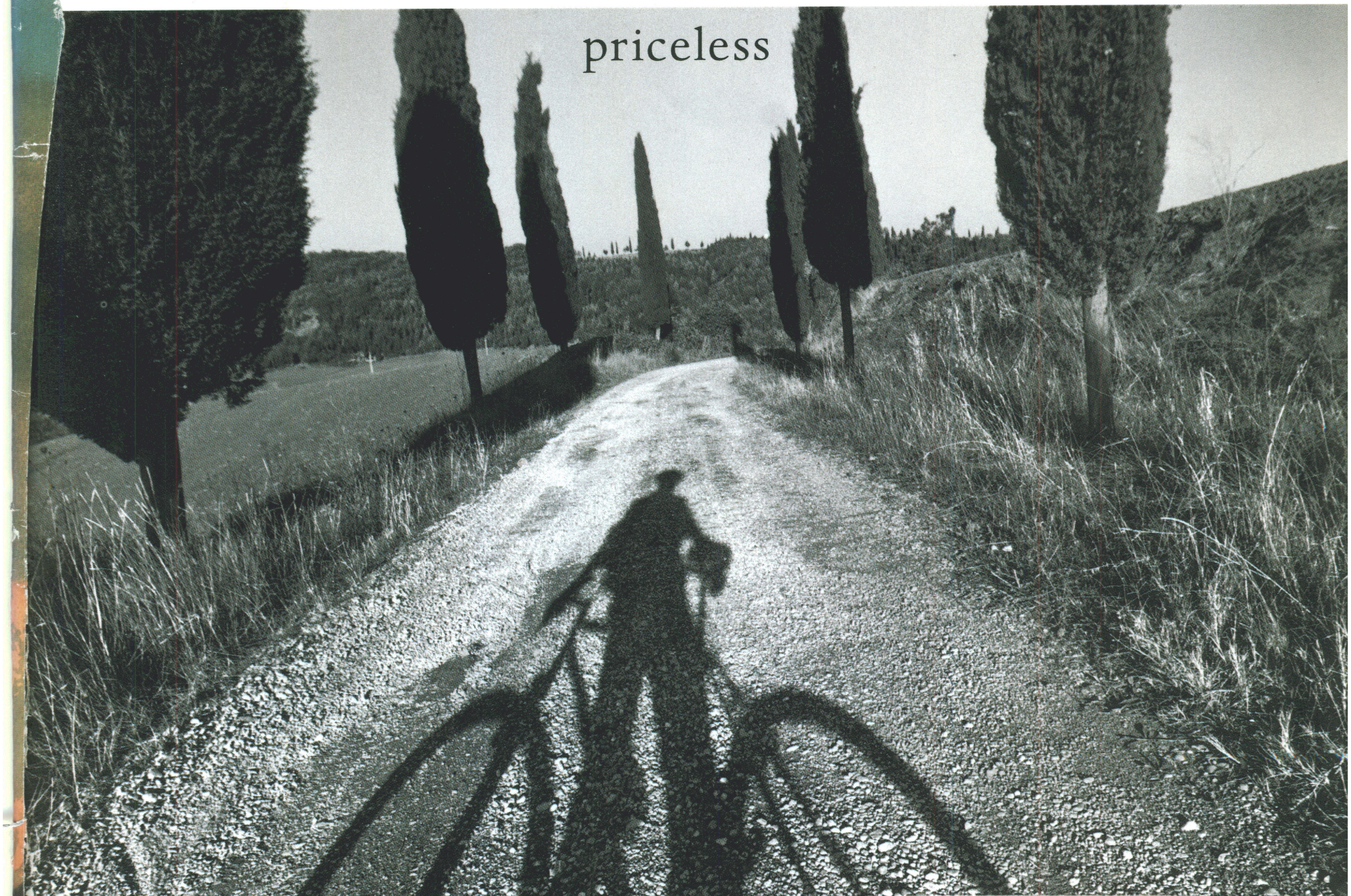

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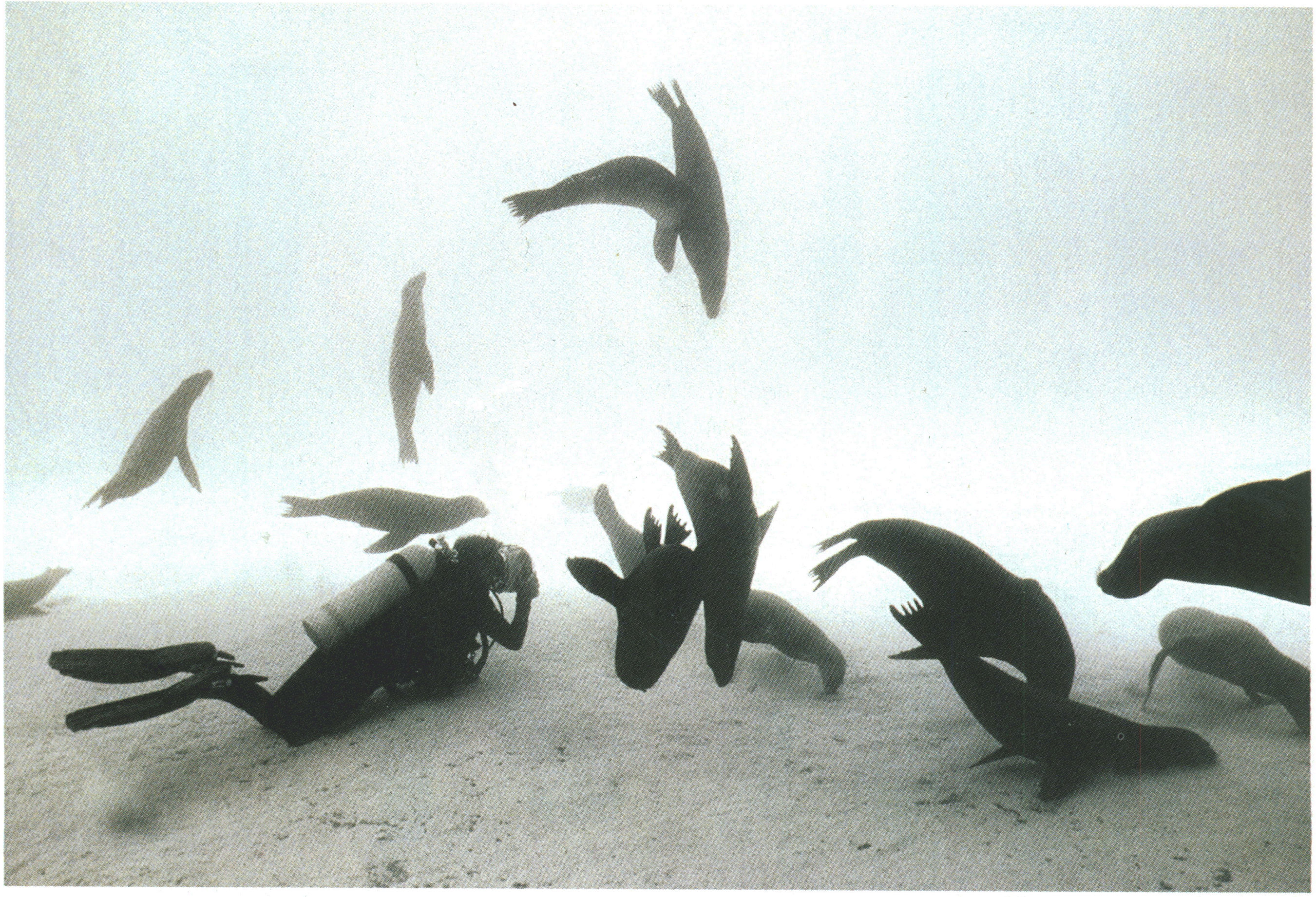

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